

To: Ann W Loomis (Services - 6)[ann.w.loomis@dom.com]
From: Kopocis, Ken
Sent: Sun 12/22/2013 4:09:21 PM
Subject: RE: Letter to Administrator

Thank you.

From: Ann W Loomis (Services - 6) [<mailto:ann.w.loomis@dom.com>]
Sent: Saturday, December 21, 2013 1:29 PM
To: Vaught, Laura; Kopocis, Ken
Subject: Letter to Administrator

Wanted to be sure you had a copy.

Ann

Sent from my iPhone

Begin forwarded message:

From: "Ball, Sarah" <SBall@eei.org>
Date: December 20, 2013 at 6:07:43 PM EST
To: "Bozek, Richard" <RBozek@eei.org>, "'Banaga, Shannon Maher (Shannon.Banaga@pseg.com)'" <Shannon.Banaga@pseg.com>, "'Butts, Rayburn (ray_butts@fpl.com)'" <ray_butts@fpl.com>, "'Dominguez, Joseph (joseph.dominguez@exeloncorp.com)'" <joseph.dominguez@exeloncorp.com>, "'Donohue, William J. (william.donohue@exeloncorp.com)'" <william.donohue@exeloncorp.com>, "'Foster, Chris (c1f2@pge.com)'" <c1f2@pge.com>, "'Labauve, Randy (randall_r_labauve@fpl.com)'" <randall_r_labauve@fpl.com>, "'Lavinson, Melissa (melissa.lavinson@pge-corp.com)'" <melissa.lavinson@pge-corp.com>, "'Loomis, Ann W (ann.w.loomis@dom.com)'" <ann.w.loomis@dom.com>, "'Matty, Bob (robert.matty@exeloncorp.com)'" <robert.matty@exeloncorp.com>, "'Smith, Geraldine (geraldine.smith@pseg.com)'" <geraldine.smith@pseg.com>, "'Strickland, Mark F. (Mark.Strickland@pseg.com)'" <Mark.Strickland@pseg.com>, "'Trojecki, Amy M. (amy.trojecki@exeloncorp.com)'" <amy.trojecki@exeloncorp.com>, "'Furnari, Russell J. (russell.furnari@pseg.com)'" <russell.furnari@pseg.com>, "'Hix, Ron (ron.hix@fpl.com)'" <ron.hix@fpl.com>, "'Carney, Jackie (Jackie.Carney@exeloncorp.com)'" <Jackie.Carney@exeloncorp.com>, "'Boyd, Skiles W. (boyds@dteenergy.com)'" <boyds@dteenergy.com>,

"cari.boyce@duke-energy.com" <cari.boyce@duke-energy.com>, "Jennifer Stenger (jennifer.stenger@duke-energy.com)" <jennifer.stenger@duke-energy.com>, "Reider, Robert (reiderr@dteenergy.com)" <reiderr@dteenergy.com>, "Diane.Denton@duke-energy.com" <Diane.Denton@duke-energy.com>, "cschatt@entergy.com" <cschatt@entergy.com>, "Barron, Kathleen (KATHLEEN.BARRON@EXELONCORP.COM)" <KATHLEEN.BARRON@EXELONCORP.COM>, "Barlow, Chuck D. (cbarlow@entergy.com)" <cbarlow@entergy.com>, "Hildebrand Susan (Susana.Hildebrand@energyfutureholdings.com)" <Susana.Hildebrand@energyfutureholdings.com>, "Spicer, Gary (spicer@txu.com)" <spicer@txu.com>, "Craig Nathan D (Nathan.Craig@duke-energy.com)" <Nathan.Craig@duke-energy.com>, "Ludecke Kristen (Kristen.Ludecke@pseg.com)" <Kristen.Ludecke@pseg.com>, "Lacy, Starla S. (slacy@nvenergy.com)" <slacy@nvenergy.com>
Cc: "Obenshain, Karen" <KObenshain@eei.org>, "Simone, Hannah (hss@nei.org)" <hss@nei.org>, "Skaff Ph. D., William (wgs@nei.org)" <wgs@nei.org>, "BONANNO, Jerry" <jxb@nei.org>, "Jenks, Carrie (cjenks@mjbradley.com)" <cjenks@mjbradley.com>, "Bartholomot, Henri" <HBartholomot@eei.org>, "Bulleit, Kristy (kbulleit@hunton.com)" <kbulleit@hunton.com>, "Comer, Ed" <EComer@eei.org>, "Hunt, Meg" <MHunt@eei.org>, "Shea, Quin" <QShea@eei.org>, "Wolff, Brian" <BWolff@eei.org>, "Rossler, Michael" <MRossler@eei.org>, "mbradley@mjbradley.com" <mbradley@mjbradley.com>, "Katrina Bettie (betतिक@dteenergy.com)" <betतिक@dteenergy.com>, "Christman, James (jchristman@hunton.com)" <jchristman@hunton.com>, "Kathy Robertson (krobertson@mjbradley.com)" <krobertson@mjbradley.com>, "Flowers, Patrick (patrick.flowers@xcelenergy.com)" <patrick.flowers@xcelenergy.com>, "Viator, Brad" <BViator@eei.org>, "Holdsworth, Eric" <EHoldsworth@eei.org>
Subject: FINAL 316(b) letter to Gina McCarthy

TO: 316(b) Workgroup

FROM: C. Richard Bozek

SUBJECT: FINAL CEO Letter

Please find attached the 316(b) letter that was sent today to the White House, EPA and correspondents. We appreciate the hard work and coordination that it took to bring this effort to completion. Thank you to everyone for working under

and meeting a tight deadline.

If you have any questions, please contact me at 202/508-5641; rbozek@eei.org or Sarah Ball at 202/508-5208; <mailto:sball@eei.org>. Thank you.

Rich

C. Richard Bozek

Director, Environmental Policy

Edison Electric Institute

701 Pennsylvania Ave., N.W.

Washington, D.C. 20004-2696

(202) 508-5641

Rbozek@eei.org

CONFIDENTIALITY NOTICE: This e-mail and any attachments are for the exclusive and confidential use of the intended recipient. If you are not the intended recipient, please do not read, distribute or take action in reliance upon this message. If you have received this in error, please notify us immediately by return e-mail and promptly delete this message and its attachments from your computer system.

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient,

any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Garbow, Avi[Garbow.Avi@epa.gov]
From: Kopocis, Ken
Sent: Wed 12/18/2013 12:40:45 AM
Subject: Re: 316(b)

8:15 on phone is fine.

From: Garbow, Avi
Sent: Tuesday, December 17, 2013 6:43:43 PM
To: Kopocis, Ken
Subject: RE: 316(b)

Would 8:15 work? Not sure how much time you anticipate, as I've got an 8:30 on 3rd floor.
Could either meet in my office or do by phone.

Avi Garbow

General Counsel

U.S. Environmental Protection Agency

(202) 564-8040

From: Kopocis, Ken
Sent: Tuesday, December 17, 2013 6:41 PM
To: Garbow, Avi
Subject: Re: 316(b)

AM.

From: Garbow, Avi
Sent: Tuesday, December 17, 2013 6:39:14 PM
To: Kopocis, Ken
Subject: RE: 316(b)

AM or PM?

Avi Garbow

General Counsel

U.S. Environmental Protection Agency

(202) 564-8040

From: Kopocis, Ken

Sent: Tuesday, December 17, 2013 6:37 PM

To: Garbow, Avi

Subject: 316(b)

Avi, I would like to talk with you briefly on the subject of discussions with outside interests.

Anytime after 7:45 tomorrow (Wednesday) is fine.

Thanks,

Ken

To: Garbow, Avi[Garbow.Avi@epa.gov]
From: Kopocis, Ken
Sent: Tue 12/17/2013 11:41:27 PM
Subject: Re: 316(b)

AM.

From: Garbow, Avi
Sent: Tuesday, December 17, 2013 6:39:14 PM
To: Kopocis, Ken
Subject: RE: 316(b)

AM or PM?

Avi Garbow

General Counsel

U.S. Environmental Protection Agency

(202) 564-8040

From: Kopocis, Ken
Sent: Tuesday, December 17, 2013 6:37 PM
To: Garbow, Avi
Subject: 316(b)

Avi, I would like to talk with you briefly on the subject of discussions with outside interests.

Anytime after 7:45 tomorrow (Wednesday) is fine.

Thanks,

Ken

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Tue 12/17/2013 3:28:55 PM
Subject: Please call re 316(b)

Thanks.

To: Ann W Loomis (Services - 6)[ann.w.loomis@dom.com]; Vaught, Laura[Vaught.Laura@epa.gov]
Cc: Penman, Crystal[Penman.Crystal@epa.gov]; Magruder, DeMara[Magruder.Demara@epa.gov]
From: Kopocis, Ken
Sent: Fri 12/13/2013 7:11:02 PM
Subject: RE: EEI et al mtg request

I am happy to have the meeting. Adding my scheduler for coordination.

From: Ann W Loomis (Services - 6) [mailto:ann.w.loomis@dom.com]
Sent: Friday, December 13, 2013 11:23 AM
To: Kopocis, Ken; Vaught, Laura
Subject: EEI et al mtg request

Ken,

The 316(b) coalition of companies, EEI, NEI and UWAG would like to meet with you next week to discuss a few very focused issues remaining in 316(b). We will be available at your convenience on Tuesday, Wednesday or Thursday.

This meeting is in addition to the meeting Carrie Jenks at MJ Bradley and I have with you on Wednesday morning.

Thank you,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Garbow, Avi[Garbow.Avi@epa.gov]
From: Kopocis, Ken
Sent: Fri 12/13/2013 3:09:55 PM
Subject: Re: Please give me a call re 316(b)

Yep.

From: Garbow, Avi
Sent: Friday, December 13, 2013 10:08:50 AM
To: Kopocis, Ken
Subject: RE: Please give me a call re 316(b)

Want me to call you from my cell phone (and put call here on mute)?

Avi Garbow
General Counsel
U.S. Environmental Protection Agency
(202) 564-8040

-----Original Message-----

From: Kopocis, Ken
Sent: Friday, December 13, 2013 10:08 AM
To: Garbow, Avi
Subject: Re: Please give me a call re 316(b)

That's what I wanted to talk about.

From: Garbow, Avi
Sent: Friday, December 13, 2013 10:07:01 AM
To: Kopocis, Ken
Subject: RE: Please give me a call re 316(b)

I am on the phone - will need to duck off though close to 10:30.

Avi Garbow
General Counsel
U.S. Environmental Protection Agency
(202) 564-8040

-----Original Message-----

From: Kopocis, Ken
Sent: Friday, December 13, 2013 10:06 AM
To: Garbow, Avi
Subject: Please give me a call re 316(b)

Ex. 6 - Personal Privacy

To: Garbow, Avi[Garbow.Avi@epa.gov]
From: Kopocis, Ken
Sent: Fri 12/13/2013 3:05:47 PM
Subject: Please give me a call re 316(b)

Ex. 6 - Personal Privacy

To: Feldt, Lisa[Feldt.Lisa@epa.gov]; Garbow, Avi[Garbow.Avi@epa.gov]
From: Kopocis, Ken
Sent: Wed 12/11/2013 10:18:20 PM
Subject: RE: 316B

I am fine with doing the entire call from the car.
 I was also prepared to start the call in the building and shift to the car if it takes more than 15 minutes.

-----Original Message-----

From: Feldt, Lisa
 Sent: Wednesday, December 11, 2013 4:43 PM
 To: Garbow, Avi; Kopocis, Ken
 Subject: Re: 316B

Adding in Ken. Another thought is for us to get in car earlier prior to 8:30 and do WOTUS call from car. Just trying to make this work. I know both issues are critical but this meeting on 316B will be important to get to principals meeting and getting this issue resolved. Lisa

From: Feldt, Lisa
 Sent: Wednesday, December 11, 2013 4:33:28 PM
 To: Garbow, Avi
 Subject: Re: 316B

Wonderful. Ken can Nancy cover the WOTUS so you can focus on 316B? Lisa

From: Garbow, Avi
 Sent: Wednesday, December 11, 2013 4:13:43 PM
 To: Kopocis, Ken; Feldt, Lisa
 Subject: Re: 316B

Fyi - both ken and I then have an 8:30-9 mtg/call with gina re waters of the us. Ken certainly more critical than me for that, but complicates travel to omb for 9am 316b start.

From: Kopocis, Ken
 Sent: Wednesday, December 11, 2013 4:11:56 PM
 To: Feldt, Lisa; Garbow, Avi
 Subject: Re: 316B

Yep, saw it.

From: Feldt, Lisa
 Sent: Wednesday, December 11, 2013 4:10:53 PM
 To: Garbow, Avi; Kopocis, Ken
 Subject: 316B

Set up time for us to get together tomorrow at 8 to prep a bit for the 9 am meeting. See you there.

Lisa
 Ÿ

To: Wood, Robert[Wood.Robert@epa.gov]
Cc: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Hewitt, Julie[Hewitt.Julie@epa.gov]
From: Kopocis, Ken
Sent: Mon 12/9/2013 8:13:38 PM
Subject: RE: 316(b) and ESA(1).doc

Very helpful, thanks.

From: Wood, Robert
Sent: Monday, December 09, 2013 11:58 AM
To: Kopocis, Ken
Cc: Southerland, Elizabeth; Hewitt, Julie
Subject: RE: 316(b) and ESA(1).doc

Edits attached in track changes to help with truthiness and a bit more detail. Happy to discuss.

Robert Wood

Engineering and Analysis Division

Office of Water

202-566-1822

From: Kopocis, Ken
Sent: Monday, December 09, 2013 8:51 AM
To: Wood, Robert
Cc: Southerland, Elizabeth
Subject: 316(b) and ESA(1).doc

I developed the attached narrative based on your documents.

Please check it for “truthiness” and whether I missed something.

Thanks,

Ken

To: Feldt, Lisa[Feldt.Lisa@epa.gov]
Cc: Garbow, Avi[Garbow.Avi@epa.gov]
From: Kopocis, Ken
Sent: Mon 12/9/2013 7:00:44 PM
Subject: RE: 316B

Will have it today, having it checked for truthiness.

-----Original Message-----

From: Feldt, Lisa
Sent: Monday, December 09, 2013 1:34 PM
To: Kopocis, Ken
Cc: Garbow, Avi
Subject: 316B

Ken, how are you coming on revising the policy arguments around the ESA issue. I know you sent a draft last week but mentioned you were going to be revising. It would be useful to have for our meeting tomorrow. Lisa
ÿ

To: Wood, Robert[Wood.Robert@epa.gov]
Cc: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Mon 12/9/2013 3:04:00 PM
Subject: RE: 316(b) and ESA(1).doc

Fine.

From: Wood, Robert
Sent: Monday, December 09, 2013 10:01 AM
To: Kopocis, Ken
Cc: Southerland, Elizabeth
Subject: Re: 316(b) and ESA(1).doc

Will get back to you by 11:30, OK?

From: Kopocis, Ken
Sent: Monday, December 09, 2013 8:51:01 AM
To: Wood, Robert
Cc: Southerland, Elizabeth
Subject: 316(b) and ESA(1).doc

I developed the attached narrative based on your documents.

Please check it for “truthiness” and whether I missed something.

Thanks,

Ken

To: Wood, Robert[Wood.Robert@epa.gov]
Cc: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Mon 12/9/2013 1:51:01 PM
Subject: 316(b) and ESA(1).doc
316(b) and ESA(1).doc

I developed the attached narrative based on your documents.

Please check it for “truthiness” and whether I missed something.

Thanks,

Ken

To: Feldt, Lisa[Feldt.Lisa@epa.gov]
From: Kopocis, Ken
Sent: Wed 12/4/2013 7:34:04 PM
Subject: Re: 316(b)

See you then, or immediately thereafter.

From: Feldt, Lisa
Sent: Wednesday, December 04, 2013 2:32:47 PM
To: Kopocis, Ken
Subject: Re: 316(b)

Yes

From: Kopocis, Ken
Sent: Wednesday, December 04, 2013 2:27:23 PM
To: Feldt, Lisa
Subject: Re: 316(b)

No. Currently at Commerce. Will you be at all-hands meeting?

From: Feldt, Lisa
Sent: Wednesday, December 04, 2013 1:21:08 PM
To: Kopocis, Ken
Subject: Re: 316(b)

Are you at SES meeting?

From: Kopocis, Ken
Sent: Wednesday, December 04, 2013 1:04:09 PM
To: Feldt, Lisa
Subject: 316(b)

Please give me a ring.

Ken

To: Stoner, Nancy[Stoner.Nancy@epa.gov]
From: Penman, Crystal
Sent: Thur 4/11/2013 3:15:49 PM
Subject: RE: News Forwarded: Fishing for a reason to regulate...

Sure.

From: Stoner, Nancy
Sent: Thursday, April 11, 2013 11:16 AM
To: Penman, Crystal
Subject: Fw: News Forwarded: Fishing for a reason to regulate...

Link sends me to 253 pages of stuff. Can you get a copy of this article and leave in my reading pile for me?

From: Gilinsky, Ellen
Sent: Thursday, April 11, 2013 11:11:28 AM
To: Stoner, Nancy
Subject: News Forwarded: Fishing for a reason to regulate...

You will want to read this – lambasts our stated preference study for 316b

Fishing for a reason to regulate
4/10/2013
Hill - Online, The

By Jeff Rosen, former general counsel, White House Office of Management and Budget -
04/10/13 10:30 AM ETThis Thursday, when the Senate holds its hearing on President Obama's
nomination of Gina McCarthy for EPA administrator, attention is likely to be ...

Link: <http://washingtonscene.thehill.com/blogs/congress-blog/energy-a-environment/292741-fishing-for-a-reason-to-regulate>

To: Stoner, Nancy[Stoner.Nancy@epa.gov]; Levine, MaryEllen[levine.maryellen@epa.gov]; Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Wade, Alexis[Wade.Alexis@epa.gov]; Witt, Richard[Witt.Richard@epa.gov]; Wood, Robert[Wood.Robert@epa.gov]; Hewitt, Julie[Hewitt.Julie@epa.gov]; Penman, Crystal[Penman.Crystal@epa.gov]
From: Neugeboren, Steven
Sent: Wed 4/10/2013 3:56:30 PM
Subject: Re: ESA and 316b

Sorry. I see its next tuesday.

From: Neugeboren, Steven
Sent: Wednesday, April 10, 2013 11:55:47 AM
To: Stoner, Nancy; Levine, MaryEllen; Southerland, Elizabeth; Wade, Alexis; Witt, Richard; Wood, Robert; Hewitt, Julie; Penman, Crystal
Subject: Re: ESA and 316b

I need to be out of the office this afternoon but can call in. Can a number be set up?

From: Penman, Crystal on behalf of Stoner, Nancy
Sent: Wednesday, April 10, 2013 11:45:37 AM
To: Levine, MaryEllen; Neugeboren, Steven; Southerland, Elizabeth; Wade, Alexis; Witt, Richard; Wood, Robert; Hewitt, Julie
Subject: ESA and 316b
When: Tuesday, April 16, 2013 4:15 PM-5:00 PM.
Where: 3233 EPA EAST

When: Tuesday, April 16, 2013 4:15 PM-5:00 PM (GMT-05:00) Eastern Time (US & Canada).
Where: 3233 EPA EAST

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*

Per Nancy's request

To: Stoner, Nancy[Stoner.Nancy@epa.gov]
From: Gilinsky, Ellen
Sent: Mon 4/8/2013 9:51:53 AM
Subject: Re: 316b

Ok

From: Stoner, Nancy
Sent: Monday, April 08, 2013 5:38:58 AM
To: Gilinsky, Ellen
Subject: 316b

I want to talk w/you about ACWA input on this. Remind me today. Thx
ÿ

To: Beauvais, Joel[Beauvais.Joel@epa.gov]
Cc: Kurlansky, Ellen[Kurlansky.Ellen@epa.gov]; Goffman, Joseph[Goffman.Joseph@epa.gov]
From: Kopocis, Ken
Sent: Mon 11/4/2013 8:56:52 PM
Subject: Re: 316b mtg with FERC

That is fine with me.

From: Beauvais, Joel
Sent: Monday, November 04, 2013 3:22:01 PM
To: Kopocis, Ken
Cc: Kurlansky, Ellen; Goffman, Joseph
Subject: 316b mtg with FERC

Hi, Ken – Thanks for inviting me to your 316b mtg with FERC tomorrow am. Unfortunately, something has just come up and I have to be out of the office for the am. Joe is also out of the office tomorrow am. Would it be OK with you if Ellen Kurlansky (cc'd), who helps coordinate OAR's engagement with FERC on these issues, joins the meeting? She knows Christy well. It's your meeting of course, but it would be helpful from our perspective to be able to listen in, given our ongoing dialogue with them on this stuff.

Joel

To: Wood, Robert[Wood.Robert@epa.gov]
From: Kopocis, Ken
Sent: Wed 10/30/2013 1:05:42 PM
Subject: EO12866_Cooling Water Intakes_2040-AE95_Preamble_20131029 highlighted.docx
EO12866 Cooling Water Intakes 2040-AE95 Preamble 20131029 highlighted.docx

As discussed.

To: Wood, Robert[Wood.Robert@epa.gov]
From: Kopocis, Ken
Sent: Mon 10/28/2013 12:05:46 PM
Subject: RE: ESA Provisions of 316(b) Rule and ESA Preamble DRAFT - DELIBERATIVE

Please stop by my office as well.

Ken

From: Wood, Robert
Sent: Monday, October 28, 2013 7:15 AM
To: Stoner, Nancy
Cc: Kopocis, Ken; Gilinsky, Ellen; Southerland, Elizabeth; Hewitt, Julie; Wade, Alexis; Witt, Richard; Levine, MaryEllen; Neugeboren, Steven; Born, Tom
Subject: Re: ESA Provisions of 316(b) Rule and ESA Preamble DRAFT - DELIBERATIVE

OK. Thanks.

Robert Wood
 Director,
 Engineering and Analysis Division
 202-566-1822

From: Stoner, Nancy
Sent: Monday, October 28, 2013 7:11:30 AM
To: Wood, Robert
Cc: Kopocis, Ken; Gilinsky, Ellen; Southerland, Elizabeth; Hewitt, Julie; Wade, Alexis; Witt, Richard; Levine, MaryEllen; Neugeboren, Steven; Born, Tom
Subject: Re: ESA Provisions of 316(b) Rule and ESA Preamble DRAFT - DELIBERATIVE

I think the a	Ex. 5 - Deliberative
Ex. 5 - Deliberative	If I said differently, ignore my comment.

From: Wood, Robert
Sent: Monday, October 28, 2013 12:00:35 AM
To: Stoner, Nancy
Cc: Kopocis, Ken; Gilinsky, Ellen; Southerland, Elizabeth; Hewitt, Julie; Wade, Alexis; Witt, Richard; Levine, MaryEllen; Neugeboren, Steven; Born, Tom
Subject: RE: ESA Provisions of 316(b) Rule and ESA Preamble DRAFT - DELIBERATIVE

Nancy, I agree with and am incorporating your edits on pages

Ex. 5 - Deliberative

Ex. 5 - Deliberative

I'm Checking on your comments on pages

67: Julie, please see Nancy's question in comment n6 on bottom of page 67. I don't know why this terminology is different.

68: Alexis, Please see Nancy's comment n7 on page 68 and my response. I checked the prohibition language at 1538(a)(1)B) and it uses the term "species." I would prefer to go with "species." OK?

Robert Wood

Engineering and Analysis Division

Office of Water

202-566-1822

From: Stoner, Nancy

Sent: Friday, October 25, 2013 6:14 PM

To: Wood, Robert

Cc: Kopocis, Ken; Gilinsky, Ellen; Southerland, Elizabeth; Hewitt, Julie; Wade, Alexis; Witt, Richard; Levine, MaryEllen; Neugeboren, Steven; Born, Tom

Subject: RE: ESA Provisions of 316(b) Rule and ESA Preamble DRAFT - DELIBERATIVE

I read the rule and had a few Qs/comments. I will read the preamble over the weekend.

The biggest Q I had on the rule

Ex. 5 - Deliberative

Ex. 5 - Deliberative

the permit application. That's more consistent with my understanding of what the Administrator is looking for. Happy to discuss over the weekend if necessary or on Monday if not.

From: Wood, Robert

Sent: Friday, October 25, 2013 3:40 PM

To: Stoner, Nancy; Goo, Michael

Cc: Kopocis, Ken; Gilinsky, Ellen; Balserak, Paul; Barron, Alex; Southerland, Elizabeth; Hewitt, Julie; Wade, Alexis; Witt, Richard; Levine, MaryEllen; Neugeboren, Steven; Born, Tom

Subject: ESA Provisions of 316(b) Rule and ESA Preamble DRAFT - DELIBERATIVE

Attached for your review are the latest 316(b) rule ESA provisions and the latest ESA section of the preamble. The rule language file shows ESA provisions in two main colors, one color showing all ESA changes made since the OMB review version was sent in July and the second (and less extensive) color showing the changes necessary to make the coordination period optional instead of required. The preamble file is just the 15 page ESA part of the preamble and is clean text. Please let me know if you have any questions or wish to discuss. We are aiming to provide this language to OMB and the Services on Monday. Thanks

[Please note that the changes shown in the rule file are only the ESA-related changes. There are other non-ESA updates and changes we are keeping in a separate file (c

Ex. 5 - Deliberative

Ex. 5 - Deliberative

Robert Wood

Director,

Engineering and Analysis Division

Office of Water

202-566-1822

To: Feldt, Lisa[Feldt.Lisa@epa.gov]
Cc: Goo, Michael[Goo.Michael@epa.gov]; Balserak, Paul[Balserak.Paul@epa.gov]; Roberts, Martha[Roberts.Martha@epa.gov]; Kenny, Shannon[Kenny.Shannon@epa.gov]
From: Kopocis, Ken
Sent: Thur 10/24/2013 8:57:34 PM
Subject: RE: 316B Non-ESA Issues

I also believe it is on a different time track – not as critical as ESA, but timely nonetheless.

I am working on it. I also talked briefly today with the Administrator about it.

Ken

From: Feldt, Lisa
Sent: Thursday, October 24, 2013 4:45 PM
To: Kopocis, Ken
Cc: Goo, Michael; Balserak, Paul; Roberts, Martha; Kenny, Shannon
Subject: 316B Non-ESA Issues

Ken,

I was calling you but Michael relayed to me that he had talked to you about the changes needed on non-ESA related issues. I think this is on a different time track but 1) Wanted to make sure you were aware and 2)that your folks are following up on it.

Lisa Feldt

Associate Deputy Administrator

Office of the Administrator

Environmental Protection Agency

office: 202-564-4711

To: Best-Wong, Benita[Best-Wong.Benita@epa.gov]; Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Kopocis, Ken
Sent: Wed 10/23/2013 2:55:07 PM
Subject: Write up on OW rules and OMB Review(2).doc
Write up on OW rules and OMB Review(2).doc

This is what went to the Administrator.

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Best-Wong, Benita[Best-Wong.Benita@epa.gov]; Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Kopocis, Ken
Sent: Mon 10/21/2013 8:16:58 PM
Subject: Write up on OW rules and OMB Review.doc
Write up on OW rules and OMB Review.doc

As promised.

Thanks for your help.

Ken

To: Feldt, Lisa[Feldt.Lisa@epa.gov]
From: Kopocis, Ken
Sent: Tue 10/1/2013 7:45:31 PM
Subject: Mtg with Administrator today

I assume today's meeting is 316(b)?
Please let her know I am not exempt or excepted.
Thanks.
KKy

To: Feldt, Lisa[Feldt.Lisa@epa.gov]
From: Kopocis, Ken
Sent: Tue 10/1/2013 3:10:39 PM
Subject: RE: Various Items

I am here now.

We should talk about 316(b).

From: Feldt, Lisa
Sent: Monday, September 30, 2013 3:06 PM
To: Kopocis, Ken
Subject: Various Items

Ken, Are you in today. Wanted to follow up on a few items including selenium and 316B. If you are in, does a quick call at 4:30 work for you?

Lisa Feldt

Associate Deputy Administrator

Office of the Administrator

Environmental Protection Agency

office: 202-564-4711

To: **Ex. 6 - Personal Privacy**
From: Kopocis, Ken
Sent: Fri 9/27/2013 9:15:14 PM
Subject: Write up on OW rules and OMB Review.doc
Write up on OW rules and OMB Review.doc

To: Deputy Administrator[62Perciasese.Bob73@epa.gov]; Smith, Kelley[Smith.Kelley@epa.gov]
From: Kopocis, Ken
Sent: Fri 9/27/2013 1:24:23 AM
Subject: Fw: 316(b) Cooling water and ESA
316(b) ESA flowchart v2.pdf
DELIBERATIVE(4).doc

Here are the materials.

I guess outlook must have finished your address for me.

Ken.

From: Kopocis, Ken
Sent: Wednesday, September 25, 2013 7:41:47 AM
To: Perciasese, Bob2
Cc: Smith, Kelley
Subject: 316(b) Cooling water and ESA

Bob,

Attached is a revised version of the narrative document on the Agency's current thinking on 316(b) and ESA. I think you will find it much easier to follow. There is also attached a flow chart that illustrates the same process described in the narrative.

Kelley, if you could get them printed at the region office, that would be greatly appreciated.

Bob, please let us know when we can move forward with the Administrator and OMB. (Or, if you need additional information.)

Thanks,

Ken

To: Wood, Robert[Wood.Robert@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/25/2013 6:59:53 PM
Subject: RE: OP Asking for Flow Chart

Don't know about green light. Bob is traveling, but I sent him the materials. He knows our sense of urgency.

From: Wood, Robert
Sent: Wednesday, September 25, 2013 2:46 PM
To: Kopocis, Ken
Subject: RE: OP Asking for Flow Chart

Thanks. Any chance of a green light today to share language with OMB? I can probably send it today if so. If not Julie is your point of contact tomorrow (I'm out). I'm back in Friday.

From: Kopocis, Ken
Sent: Wednesday, September 25, 2013 2:43 PM
To: Wood, Robert
Subject: RE: OP Asking for Flow Chart

Sure.

And, I got your phone message. Thanks.

Ken

From: Wood, Robert
Sent: Wednesday, September 25, 2013 2:42 PM
To: Kopocis, Ken
Subject: OP Asking for Flow Chart

OP (Paul Balserak) is asking me for a copy of the flow chart. Said it came up in tri-weekly meeting with you and Arvin this morning. Paul is 316(b) lead for OP. I don't see a problem.

OK if I share it?

Robert Wood

Engineering and Analysis Division

Office of Water

202-566-1822

To: Wood, Robert[Wood.Robert@epa.gov]
Cc: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/25/2013 2:00:42 PM
Subject: RE: 316(b) ESA consultation flowchart

Flow chart is fine.

From: Wood, Robert
Sent: Wednesday, September 25, 2013 9:28 AM
To: Kopocis, Ken
Cc: Southerland, Elizabeth
Subject: Re: 316(b) ESA consultation flowchart

I am reviewing the memo now and am going to have OGC look at a couple things. Will get back to you asap this morning. Any feedback on the flow chart? (Best to review the one attached to Andrew's 6:23pm email as it is highest quality image and is date stamped 9/24).

Robert Wood
Director,
Engineering and Analysis Division
202-566-1822

From: Kopocis, Ken
Sent: Tuesday, September 24, 2013 6:30:38 PM
To: Southerland, Elizabeth; Krieger, Andrew; Wood, Robert
Subject: RE: 316(b) ESA consultation flowchart

I'm good. No need.

From: Southerland, Elizabeth
Sent: Tuesday, September 24, 2013 6:25 PM
To: Krieger, Andrew; Wood, Robert
Cc: Kopocis, Ken
Subject: Re: 316(b) ESA consultation flowchart

Tale Ken some hard copies of the flowchart, Andrew.

From: Krieger, Andrew
Sent: Tuesday, September 24, 2013 6:23:10 PM
To: Wood, Robert; Southerland, Elizabeth
Cc: Kopocis, Ken
Subject: 316(b) ESA consultation flowchart

Betsy and Rob,

Sorry for the software snafu, but I'm up and running again. You'll notice that the scanned version of the flowchart that I previously sent isn't very high quality. Attached are high quality PDF (best for printing and viewing) and Word (editable) versions of the flow chart.

Let me know if how else I can help.

Thanks,

Andrew Krieger
ORISE Participant
Office of Science and Technology, Office of Water
US Environmental Protection Agency
krieger.andrew@epa.gov
Ph: 202-566-0851

To: Perciasepe, Bob2[Perciasepe.Bob1644@epa.gov]
Cc: Smith, Kelley[Smith.Kelley@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/25/2013 11:41:47 AM
Subject: 316(b) Cooling water and ESA
316(b) ESA flowchart v2.pdf
DELIBERATIVE(4).doc

Bob,

Attached is a revised version of the narrative document on the Agency's current thinking on 316(b) and ESA. I think you will find it much easier to follow. There is also attached a flow chart that illustrates the same process described in the narrative.

Kelley, if you could get them printed at the region office, that would be greatly appreciated.

Bob, please let us know when we can move forward with the Administrator and OMB. (Or, if you need additional information.)

Thanks,

Ken

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Wood, Robert[Wood.Robert@epa.gov]
From: Kopocis, Ken
Sent: Tue 9/24/2013 10:18:30 PM
Subject: DELIBERATIVE(4).doc
DELIBERATIVE(4).doc

Betsy and Rob,

Here is the revised version of the memo. Once again, please make sure I didn't change the substance of the rule.

Please let me know the status of the flow chart.

Ken

To: Ganesan, Arvin[Ganesan.Arvin@epa.gov]
From: Kopocis, Ken
Sent: Tue 9/24/2013 4:56:31 PM
Subject: RE: 316(b)

Thanks. Things are moving and don't need any help.

Ken

From: Ganesan, Arvin
Sent: Tuesday, September 24, 2013 11:40 AM
To: Kopocis, Ken
Cc: Roberts, Martha
Subject: 316(b)

Hey ken,

On 316(b), understand that Bob asked for a bunch of things. Can we chat this afternoon to a) get this moving along and b) to see if we can help with 3rd floor process?

Whens good?

A

Arvin R. Ganesan

Deputy Chief of Staff for Policy

U.S Environmental Protection Agency

Office of the Administrator

202.564.5200

ganesan.arvin@epa.gov

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Wood, Robert[Wood.Robert@epa.gov]; Hewitt, Julie[Hewitt.Julie@epa.gov]
Cc: Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]
From: Kopocis, Ken
Sent: Fri 9/20/2013 9:14:18 PM
Subject: DELIBERATIVE(2).doc
[DELIBERATIVE\(2\).doc](#)

Here are my comments.

Thanks,

Ken

To: Feldt, Lisa[Feldt.Lisa@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/18/2013 9:50:00 PM
Subject: Fw: Follow-up to September 5 316(b) Meeting
316b McCarthy Letter 091713 final.pdf

FYI

From: Kopocis, Ken
Sent: Wednesday, September 18, 2013 11:51:10 AM
To: Southerland, Elizabeth; Wood, Robert; Hewitt, Julie
Cc: Stoner, Nancy
Subject: FW: Follow-up to September 5 316(b) Meeting

Here is the signed copy of the letter.

From: Bozek, Richard [mailto:RBozek@eei.org]
Sent: Wednesday, September 18, 2013 11:17 AM
To: Kopocis, Ken
Subject: FW: Follow-up to September 5 316(b) Meeting

Ken:

In case you haven't already seen this. If you have any questions, don't hesitate to call. Thank you.

From: Kuhn, Thomas
Sent: Tuesday, September 17, 2013 5:26 PM
To: McCarthy.gina@Epa.gov
Cc: perciaspe.bob@epa.gov
Subject: Follow-up to September 5 316(b) Meeting

Gina: Thank you for taking the time to meet with a group of our CEO's regarding the Clean

Water Act § 316(b) cooling water intake structures rule. Attached is a letter outlining our perspective on several of the most critical remaining issues. If you have any questions, please contact me or have your staff contact Quin Shea (qshea@eei.org; 202-508-5027) or Rich Bozek (rbozek@eei.org; 202-508-5641).



**Edison Electric
Institute**

September 17, 2013

The Honorable Regina A. McCarthy
Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Federal Building
1200 Pennsylvania Ave., NW
Washington, DC 20460-0001

Dear Administrator McCarthy:

On behalf of the Board of Directors and member companies of the Edison Electric Institute (EEI), as well as our partners at the Nuclear Energy Institute (NEI), Clean Energy Group (CEG), and Utility Water Act Group (UWAG), we want to extend our sincere thanks to you and your team for the productive meeting on September 5 regarding industry issues with the Clean Water Act (CWA) § 316(b) cooling water intake structures rulemaking for existing facilities. As you know, this rulemaking, which will impact almost half of the existing U.S. generation capacity, is expected to be completed by November 4. We believe the rule can be designed to achieve important environmental benefits with cost-effective technology solutions, while avoiding inappropriate energy and reliability impacts and without imposing unnecessary costs on consumers.

Our September 5 meeting demonstrated that a constructive relationship among you, your staff, and the electric power sector can be mutually beneficial in charting a path toward environmentally protective and cost-effective regulation. Maintaining an open dialogue leads to more reasonable results, as already evidenced by the flexibility we understand EPA has incorporated into the draft final rule based on the comments addressing the Impingement Mortality Notice of Data Availability published in 2012.

During our meeting, you and your team asked for feedback on several issues of profound importance to the electric power industry. We are writing to address your questions and to offer our recommendations on how best to craft an acceptable final rule.

Use of Cost-Benefit Analysis as a Basis for Best Technology Available (BTA) Selection for Entrainment

EPA's proposed BTA standard for entrainment establishes a process for site-specific determination of entrainment requirements at individual facilities. This reflects EPA's determination that there is no single technology that qualifies as entrainment BTA for all facilities nationwide. EPA's proposal appropriately requires permitting authorities to consider nine factors, including costs and benefits, when making a BTA determination.

We understand that EPA's most recent thinking alters this requirement by making consideration of costs and benefits in BTA determinations optional. If cost/benefit balancing is optional, then

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 2

a permitting authority could require a cooling tower retrofit simply because it is technically feasible regardless of the huge costs and questionable benefits created by reducing impacts to life stages that typically have very high natural mortality rates. For many plants, the only realistic option would be either to install towers at a very high cost to the customers or shutter the facility.

We support site-specific entrainment BTA determinations. However, EPA should require permitting authorities to consider all nine factors, including costs and benefits, set out in the proposed rule in making entrainment decisions.

Stated Preference Survey (Willingness-to-Pay)

We understand that EPA will not rely on its national and regional stated preference survey results to justify the rulemaking, though EPA is continuing to evaluate the usefulness of the methodology to measure non-use benefits.

Use of Survey Results

For the same reasons that EPA is not using the survey results to justify the rulemaking, EPA should make clear that states cannot rely on the results in evaluating benefits in site-specific permitting decisions. There has not been any determination that the results are scientifically sound.

EPA can address this concern by stating explicitly that: (1) EPA's stated preference survey and its results have no relevance to any future application of the § 316(b) rule, including in permitting decisions and future guidance or other decisions by EPA or state permit writers; and (2) the results of EPA's national and regionally conducted survey should not be used to quantify the non-use benefits for a site-specific decision.

Use of Survey Methodology

We are also concerned about the inappropriate use of the willingness-to-pay (WTP) survey methodology in the § 316(b) context, especially since both the proposed rule and, as we understand it, the draft final rule implicitly require permittees to use this controversial methodology. For instance, as discussed in 40 C.F.R. § 125.98(e)(3), the proposed rule requires states to consider non-use benefits by requiring permitting directors to determine quantified and qualitative social benefits and social costs of available entrainment technologies, **including ecological benefits** and benefits to any threatened or endangered species. The proposed rule also requires at 40 C.F.R. § 122.21(r)(11) that the permittee conduct a *Benefits Valuation Study* that is to identify the "basis for any monetized values ... assigned to changes in commercial and recreational species, forage fish, and shellfish, and to any other ecosystem or non-use benefits." It is our understanding that the draft final rule may go even further by precluding permitting directors from rejecting an entrainment technology based on the comparison of the costs and benefits if the information on benefits is inadequate, which EPA has suggested will be true if non-use benefits are not quantified. Further, it is our understanding that the draft final rule also incorporates the principle of WTP into the definition of social benefits.

Given EPA's decision to seek further review of its own WTP survey, EPA should not include any language in the final rule that might be interpreted to encourage or require states to pursue the use of such surveys, which are likely to inflate benefits and skew decision-making toward

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 3

closed-cycle cooling, in conflict with the Agency's own recognition that closed-cycle cooling is not BTA. Instead, the treatment of non-use benefits should be left to the states' discretion.

EPA can address our concerns by stating explicitly that quantification of non-use benefits is not required in site-specific decisions by state permitting authorities.

Definition of New and Existing Units at Existing Facilities

In what would be a significant change in definition, it is our understanding that EPA intends to treat units that replace the turbine and the condenser as "new units," and to require these units to install closed-cycle cooling except where the permittee has installed a high-efficiency unit. This would be true even where the modification or replacement results in no change in the capacity of an existing intake structure. However, EPA's authority under § 316(b) extends only to the *cooling water intake structure*. In the absence of a significant modification to the existing cooling water intake structure (beyond those undertaken expressly to comply with the impingement mortality and entrainment requirements of this final regulation), there is no statutory basis for regulating a modified or replacement unit any differently than an original or unmodified unit. Such a change in the definition of existing units is analogous to EPA creating a first of its kind new source review program for existing cooling water intake structures under the Clean Water Act without the legislative authority to do so. We believe that "repowered, rebuilt and replaced" units should be subject to the same impingement mortality and entrainment requirements as the rule applies to other units at existing facilities. Imposing a "cooling tower only" requirement on such units would be a disincentive to upgrade or repower facilities, which otherwise would lead to environmental benefits.

On a separate but related issue, uprates of existing nuclear facilities should not artificially be classified as "new units," thereby imposing a cooling tower requirement. Construction is presently underway at several of the nation's nuclear plants to install equipment and to increase the emissions-free electricity from these plants. These uprates have been approved by the Nuclear Regulatory Commission and involve billions of dollars of expenses that did not anticipate that the units would have to install closed-cycle cooling. The final rule language would jeopardize these current uprate projects and prevent future uprates.

The electric power sector strongly believes that EPA should define a new unit in the final rule the same way it did in its proposal—by expressly excluding "repowered, rebuilt or replaced" units from being defined as "new" units. The rule should also specify that nuclear plant uprates do not constitute a "new unit," and, therefore, do not trigger a requirement to install cooling towers. Facilities will need to replace turbines and/or condensers or component parts during the expected life of the facility. Requiring cooling towers upon replacement of these parts would prematurely close facilities and create disincentives to investments that otherwise would lead to environmental benefits.

Definition of Closed-Cycle Cooling and Waters of the United States (WOUS)

EPA has asked whether industry would find workable a rule that precludes impoundments classified as WOUS from qualifying as part of a closed-cycle cooling system as long as the Agency assures that it will not use this rule or revised WOUS guidance or rules to change the status quo as to the current exemption for waste treatment systems.

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 4

We do not think that approach would meet the concerns we discussed because EPA has not consistently recognized that waste treatment systems lawfully created in or by impounding waters of the United States are not themselves WOUS. Although EPA has acknowledged in regulations and guidance governing EPA's jurisdiction that waste treatment systems created in WOUS before passage of the CWA, and waste treatment systems lawfully created after passage of the CWA implementing regulations should not be disqualified from the waste treatment exemption, in practice the Regions have sometimes failed to abide by this policy. As a result, relying solely on the waste treatment system exemption could preclude the continued use of some impoundments specifically designed primarily for closed-cycle cooling. Such a result would be unfair, costly, and environmentally unnecessary.

In addition to maintaining the current regulatory exemption for waste treatment systems, EPA should specify that cooling ponds or impoundments lawfully created principally to serve as part of a closed-cycle cooling system can continue to serve that purpose and will satisfy § 316(b) for both impingement and entrainment.

Endangered Species Act and Section 7 Consultation

EPA and the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) have now commenced formal consultation under Section 7 of the Endangered Species Act (ESA). In our September 5 meeting, EPA acknowledged that the consultation process should not blur the lines between the statutory authorities of the ESA and the CWA, and, further, that no new regulatory authority is envisioned for the Services.

It is our understanding, however, that EPA has added provisions in the draft final rule requiring permittees to submit permit application materials directly to the Services, and to coordinate directly with the Services for purposes of determining whether any more stringent impingement and entrainment control requirements are warranted at individual facilities. The provisions reportedly require States to impose any more stringent requirements deemed necessary by the Services.

However, EPA should remove from the rule any provisions inserting the Services directly into the § 316(b) compliance determination process. Neither the CWA nor the ESA provides the Services with any direct role in the National Pollutant Discharge Elimination System (NPDES) permitting process. Although the Services, like other federal and state agencies, are entitled to comment on draft permits, neither statute gives them any role in setting or implementing § 316(b) or determining NPDES permit provisions. The Services have ample authority to protect their interests in permit-based § 316(b) implementation by following customary procedures under the CWA and by using their enforcement authorities. Nothing further is authorized or required.

Low Capacity Utilization Units

EPA has recognized in other regulations that some low capacity utilization units (often peakers) are needed for grid reliability and local load balancing needs, and that such units are unable to economically bear the same compliance costs as baseload and other higher capacity units. Given how infrequently such facilities operate, there is little risk that any short-term impact from such units would have a material and adverse long-term impact on the environment. Therefore, EPA should specify a capacity factor or flow rate below which the final rule's requirements will not

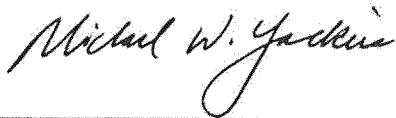
The Honorable Regina A. McCarthy
 September 17, 2013
 Page 5

apply, thus recognizing the limitations of these facilities to cost-effectively install impingement and entrainment controls.

EPA should adopt a provision similar to that found in the Mercury and Air Toxics Standards (MATS) rule, which provides a limited use subcategory for certain facilities with an annual capacity factor limit of no more than 8 percent measured over a 24-month block. Alternatively, a flow rate limit of approximately 15 percent of the maximum possible withdrawal volume on an annual basis could be used. It is vital that such a provision apply to units operated for grid reliability reasons, such as units dispatched to meet seasonal peak demand and situations where fuel flexibility is necessary to offset supply restrictions in a specific geographic region. Limiting such a provision to only units used for emergency purposes would not adequately address the fundamental need to allow peaking units to continue to operate.

Again, we thank you for your continued focus on this most important utility issue and for the prior work to address a number of our concerns. We look forward to working with you and your team to satisfactorily address the remaining issues and ensure that EPA promulgates a reasonable and environmentally protective final regulation.

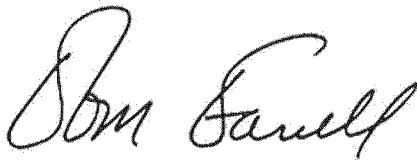
Sincerely,



Michael W. Yackira
 President & CEO, NV Energy
 EEI Chair



Lewis Hay, III
 Executive Chairman, NextEra Energy, Inc.
 Immediate Past EEI Chair



Thomas F. Farrell
 Chairman, President & CEO
 Dominion



Christopher M. Crane
 President & CEO, Exelon Corp.
 316(b) Issue Leader



Gerry Anderson
 Chairman, President & CEO
 DTE Energy Company
 EEI Policy Committee on Environment
 Co-Chair



Ralph Izzo
 Chairman, President & CEO
 Public Service Enterprise Group, Inc.
 EEI Policy Committee on Environment Co-
 Chair

cc: The Hon. Robert Perciasepe, EPA

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Wood, Robert[Wood.Robert@epa.gov]; Hewitt, Julie[Hewitt.Julie@epa.gov]
Cc: Magruder, DeMara[Magruder.Demara@epa.gov]; Penman, Crystal[Penman.Crystal@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/18/2013 3:40:26 PM
Subject: FW: 316(b) letter
316(b) Final McCarthy letter.docx

Here is the letter we were expecting. We need to discuss before the Friday afternoon meeting with the Administrator.

Joe and Ken,

Please see attached a letter that was sent to Administrator McCarthy last evening from those involved in the recent meeting on 316(b). It is intended to thank everyone for their keen attention to these issues. I expect that we will be asking for another meeting on the staff level.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

September 17, 2013

The Honorable Regina A. McCarthy
Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Federal Building
1200 Pennsylvania Ave., NW
Washington, DC 20460-0001

Dear Administrator McCarthy:

On behalf of the Board of Directors and member companies of the Edison Electric Institute (EEI), as well as our partners at the Nuclear Energy Institute (NEI), Clean Energy Group (CEG), and Utility Water Act Group (UWAG), we want to extend our sincere thanks to you and your team for the productive meeting on September 5 regarding industry issues with the Clean Water Act (CWA) § 316(b) cooling water intake structures rulemaking for existing facilities. As you know, this rulemaking, which will impact almost half of the existing U.S. generation capacity, is expected to be completed by November 4. We believe the rule can be designed to achieve important environmental benefits with cost-effective technology solutions, while avoiding inappropriate energy and reliability impacts and without imposing unnecessary costs on consumers.

Our September 5 meeting demonstrated that a constructive relationship among you, your staff, and the electric power sector can be mutually beneficial in charting a path toward environmentally protective and cost-effective regulation. Maintaining an open dialogue leads to more reasonable results, as already evidenced by the flexibility we understand EPA has incorporated into the draft final rule based on the comments addressing the Impingement Mortality Notice of Data Availability published in 2012.

During our meeting, you and your team asked for feedback on several issues of profound importance to the electric power industry. We are writing to address your questions and to offer our recommendations on how best to craft an acceptable final rule.

Use of Cost-Benefit Analysis as a Basis for Best Technology Available (BTA) Selection for Entrainment

EPA's proposed BTA standard for entrainment establishes a process for site-specific determination of entrainment requirements at individual facilities. This reflects EPA's determination that there is no single technology that qualifies as entrainment BTA for all facilities nationwide. EPA's proposal appropriately requires permitting authorities to consider nine factors, including costs and benefits, when making a BTA determination.

We understand that EPA's most recent thinking alters this requirement by making consideration

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 2

of costs and benefits in BTA determinations optional. If cost/benefit balancing is optional, then a permitting authority could require a cooling tower retrofit simply because it is technically feasible regardless of the huge costs and questionable benefits created by reducing impacts to life stages that typically have very high natural mortality rates. For many plants, the only realistic option would be either to install towers at a very high cost to the customers or shutter the facility.

We support site-specific entrainment BTA determinations. However, EPA should require permitting authorities to consider all nine factors, including costs and benefits, set out in the proposed rule in making entrainment decisions.

Stated Preference Survey (Willingness-to-Pay)

We understand that EPA will not rely on its national and regional stated preference survey results to justify the rulemaking, though EPA is continuing to evaluate the usefulness of the methodology to measure non-use benefits.

Use of Survey Results

For the same reasons that EPA is not using the survey results to justify the rulemaking, EPA should make clear that states cannot rely on the results in evaluating benefits in site-specific permitting decisions. There has not been any determination that the results are scientifically sound.

EPA can address this concern by stating explicitly that: (1) EPA's stated preference survey and its results have no relevance to any future application of the § 316(b) rule, including in permitting decisions and future guidance or other decisions by EPA or state permit writers; and (2) the results of EPA's national and regionally conducted survey should not be used to quantify the non-use benefits for a site-specific decision.

Use of Survey Methodology

We are also concerned about the inappropriate use of the willingness-to-pay (WTP) survey methodology in the § 316(b) context, especially since both the proposed rule and, as we understand it, the draft final rule implicitly require permittees to use this controversial methodology. For instance, as discussed in 40 C.F.R. § 125.98(e)(3), the proposed rule requires states to consider non-use benefits by requiring permitting directors to determine quantified and qualitative social benefits and social costs of available entrainment technologies, **including ecological benefits** and benefits to any threatened or endangered species. The proposed rule also requires at 40 C.F.R. § 122.21(r)(11) that the permittee conduct a *Benefits Valuation Study* that is to identify the "basis for any monetized values ... assigned to changes in commercial and recreational species, forage fish, and shellfish, and to any other ecosystem or non-use benefits." It is our understanding that the draft final rule may go even further by precluding permitting directors from rejecting an entrainment technology based on the comparison of the costs and benefits if the information on benefits is inadequate, which EPA has suggested will be true if non-use benefits are not quantified. Further, it is our understanding that the draft final rule also incorporates the principle of WTP into the definition of social benefits.

Given EPA's decision to seek further review of its own WTP survey, EPA should not include any language in the final rule that might be interpreted to encourage or require states to pursue the use of such surveys, which are likely to inflate benefits and skew decision-making toward closed-

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 3

cycle cooling, in conflict with the Agency's own recognition that closed-cycle cooling is not BTA. Instead, the treatment of non-use benefits should be left to the states' discretion.

EPA can address our concerns by stating explicitly that quantification of non-use benefits is not required in site-specific decisions by state permitting authorities.

Definition of New and Existing Units at Existing Facilities

In what would be a significant change in definition, it is our understanding that EPA intends to treat units that replace the turbine and the condenser as "new units," and to require these units to install closed-cycle cooling except where the permittee has installed a high-efficiency unit. This would be true even where the modification or replacement results in no change in the capacity of an existing intake structure. However, EPA's authority under § 316(b) extends only to the *cooling water intake structure*. In the absence of a significant modification to the existing cooling water intake structure (beyond those undertaken expressly to comply with the impingement mortality and entrainment requirements of this final regulation), there is no statutory basis for regulating a modified or replacement unit any differently than an original or unmodified unit. Such a change in the definition of existing units is analogous to EPA creating a first of its kind new source review program for existing cooling water intake structures under the Clean Water Act without the legislative authority to do so. We believe that "repowered, rebuilt and replaced" units should be subject to the same impingement mortality and entrainment requirements as the rule applies to other units at existing facilities. Imposing a "cooling tower only" requirement on such units would be a disincentive to upgrade or repower facilities, which otherwise would lead to environmental benefits.

On a separate but related issue, uprates of existing nuclear facilities should not artificially be classified as "new units," thereby imposing a cooling tower requirement. Construction is presently underway at several of the nation's nuclear plants to install equipment and to increase the emissions-free electricity from these plants. These uprates have been approved by the Nuclear Regulatory Commission and involve billions of dollars of expenses that did not anticipate that the units would have to install closed-cycle cooling. The final rule language would jeopardize these current uprate projects and prevent future uprates.

The electric power sector strongly believes that EPA should define a new unit in the final rule the same way it did in its proposal—by expressly excluding "repowered, rebuilt or replaced" units from being defined as "new" units. The rule should also specify that nuclear plant uprates do not constitute a "new unit," and, therefore, do not trigger a requirement to install cooling towers. Facilities will need to replace turbines and/or condensers or component parts during the expected life of the facility. Requiring cooling towers upon replacement of these parts would prematurely close facilities and create disincentives to investments that otherwise would lead to environmental benefits.

Definition of Closed-Cycle Cooling and Waters of the United States (WOUS)

EPA has asked whether industry would find workable a rule that precludes impoundments classified as WOUS from qualifying as part of a closed-cycle cooling system as long as the Agency assures that it will not use this rule or revised WOUS guidance or rules to change the status quo as to the current exemption for waste treatment systems.

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 4

We do not think that approach would meet the concerns we discussed because EPA has not consistently recognized that waste treatment systems lawfully created in or by impounding waters of the United States are not themselves WOUS. Although EPA has acknowledged in regulations and guidance governing EPA's jurisdiction that waste treatment systems created in WOUS before passage of the CWA, and waste treatment systems lawfully created after passage of the CWA implementing regulations should not be disqualified from the waste treatment exemption, in practice the Regions have sometimes failed to abide by this policy. As a result, relying solely on the waste treatment system exemption could preclude the continued use of some impoundments specifically designed primarily for closed-cycle cooling. Such a result would be unfair, costly, and environmentally unnecessary.

In addition to maintaining the current regulatory exemption for waste treatment systems, EPA should specify that cooling ponds or impoundments lawfully created principally to serve as part of a closed-cycle cooling system can continue to serve that purpose and will satisfy § 316(b) for both impingement and entrainment.

Endangered Species Act and Section 7 Consultation

EPA and the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) have now commenced formal consultation under Section 7 of the Endangered Species Act (ESA). In our September 5 meeting, EPA acknowledged that the consultation process should not blur the lines between the statutory authorities of the ESA and the CWA, and, further, that no new regulatory authority is envisioned for the Services.

It is our understanding, however, that EPA has added provisions in the draft final rule requiring permittees to submit permit application materials directly to the Services, and to coordinate directly with the Services for purposes of determining whether any more stringent impingement and entrainment control requirements are warranted at individual facilities. The provisions reportedly require States to impose any more stringent requirements deemed necessary by the Services.

However, EPA should remove from the rule any provisions inserting the Services directly into the § 316(b) compliance determination process. Neither the CWA nor the ESA provides the Services with any direct role in the National Pollutant Discharge Elimination System (NPDES) permitting process. Although the Services, like other federal and state agencies, are entitled to comment on draft permits, neither statute gives them any role in setting or implementing § 316(b) or determining NPDES permit provisions. The Services have ample authority to protect their interests in permit-based § 316(b) implementation by following customary procedures under the CWA and by using their enforcement authorities. Nothing further is authorized or required.

Low Capacity Utilization Units

EPA has recognized in other regulations that some low capacity utilization units (often peakers) are needed for grid reliability and local load balancing needs, and that such units are unable to economically bear the same compliance costs as baseload and other higher capacity units. Given how infrequently such facilities operate, there is little risk that any short-term impact from such units would have a material and adverse long-term impact on the environment. Therefore, EPA should specify a capacity factor or flow rate below which the final rule's requirements will not apply, thus recognizing the limitations of these facilities to cost-effectively install impingement

The Honorable Regina A. McCarthy
 September 17, 2013
 Page 5

and entrainment controls.

EPA should adopt a provision similar to that found in the Mercury and Air Toxics Standards (MATS) rule, which provides a limited use subcategory for certain facilities with an annual capacity factor limit of no more than 8 percent measured over a 24-month block. Alternatively, a flow rate limit of approximately 15 percent of the maximum possible withdrawal volume on an annual basis could be used. It is vital that such a provision apply to units operated for grid reliability reasons, such as units dispatched to meet seasonal peak demand and situations where fuel flexibility is necessary to offset supply restrictions in a specific geographic region. Limiting such a provision to only units used for emergency purposes would not adequately address the fundamental need to allow peaking units to continue to operate.

Again, we thank you for your continued focus on this most important utility issue and for the prior work to address a number of our concerns. We look forward to working with you and your team to satisfactorily address the remaining issues and ensure that EPA promulgates a reasonable and environmentally protective final regulation.

Sincerely,

Michael W. Yackira
 President & CEO, NV Energy
 EEI Chair

Lewis Hay, III
 Executive Chairman, NextEra Energy, Inc.
 Immediate Past EEI Chair

Thomas F. Farrell, II
 Chairman, President and CEO, Dominion
 Former EEI Chair

Christopher M. Crane
 President & CEO, Exelon Corp.
 316(b) Issue Leader

Gerry Anderson
 Chairman, President & CEO
 DTE Energy Company
 EEI Policy Committee on Environment Co-Chair

Ralph Izzo
 Chairman, President & CEO
 Public Service Enterprise Group, Inc.
 EEI Policy Committee on Environment Co-Chair

The Honorable Regina A. McCarthy
September 17, 2013
Page 6

cc: The Hon. Robert Perciasepe, EPA

To: Ann W Loomis (Services - 6)[ann.w.loomis@dom.com]; Goffman, Joseph[Goffman.Joseph@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/18/2013 12:55:44 PM
Subject: RE: 316(b) letter

Thanks Ann.

We will give it a look.

Ken

From: Ann W Loomis (Services - 6) [mailto:ann.w.loomis@dom.com]
Sent: Wednesday, September 18, 2013 8:54 AM
To: Goffman, Joseph; Kopocis, Ken
Subject: 316(b) letter

Joe and Ken,

Please see attached a letter that was sent to Administrator McCarthy last evening from those involved in the recent meeting on 316(b). It is intended to thank everyone for their keen attention to these issues. I expect that we will be asking for another meeting on the staff level.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Vaught, Laura[Vaught.Laura@epa.gov]; Distefano, Nichole[DiStefano.Nichole@epa.gov]
From: Kopocis, Ken
Sent: Fri 9/13/2013 5:50:13 PM
Subject: Vitter reply(1).doc
[Vitter reply\(1\).doc](#)

Some drafting for Vitter response.

Still working with OECA.

Ken

To: Goo, Michael[Goo.Michael@epa.gov]
Cc: Balserak, Paul[Balserak.Paul@epa.gov]
From: Kopocis, Ken
Sent: Thur 9/5/2013 11:41:49 AM
Subject: Background for Administrator meeting with EEI on Sept 5 2013.doc
Background for Administrator meeting with EEI on Sept 5 2013.doc

FYI.

This is what went to Administrator last evening.

To: Hewitt, Julie[Hewitt.Julie@epa.gov]; Wood, Robert[Wood.Robert@epa.gov]; Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/4/2013 11:20:31 PM
Subject: Background for Administrator meeting with EEI on Sept 5 2013.doc
Background for Administrator meeting with EEI on Sept 5 2013.doc

Here is what the Administrator received.

Ken

To: Scozzafava, MichaelE[Scozzafava.MichaelE@epa.gov]; Fritz, Matthew[Fritz.Matthew@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/4/2013 10:16:19 PM
Subject: Background for Administrator meeting with EEI on Sept 5 2013.doc
Background for Administrator meeting with EEI on Sept 5 2013.doc

For tomorrow

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Wed 9/4/2013 12:23:55 PM
Subject: RE: EEI

Thanks.

From: Southerland, Elizabeth
Sent: Wednesday, September 04, 2013 8:05 AM
To: Kopocis, Ken
Subject: Re: EEI

I will send you the briefing now. Rob was working to get a time scheduled today.

From: Kopocis, Ken
Sent: Wednesday, September 04, 2013 7:48:32 AM
To: Southerland, Elizabeth
Subject: FW: EEI

Any update when I might see something? Or meet?

Thanks,

KK

From: Kopocis, Ken
Sent: Tuesday, September 03, 2013 10:56 AM
To: Southerland, Elizabeth
Cc: Stoner, Nancy
Subject: FW: EEI

We will need materials in advance of this. A summary of where things are and the EEI issues raised, and how addressed.

Also, a pre-meet for me on Wednesday would be good.

From: Scozzafava, MichaelE
Sent: Tuesday, September 03, 2013 10:50 AM
To: Kopocis, Ken; Stoner, Nancy
Cc: Magruder, DeMara
Subject: EEI

Ken/Nancy:

Ken will be added to the meeting with the Administrator and EEI on Thursday. It's a two hour meeting, and the first topic (i.e. from 9 to 10) will be 316b. An invite is forthcoming.

Mike

Michael Scozzafava

Special Assistant

Office of the Administrator

ARN 3316

202-566-1376

To: Magruder, DeMara[Magruder.Demara@epa.gov]
From: Kopocis, Ken
Sent: Mon 8/5/2013 3:03:17 PM
Subject: FW: 316(b) Meeting -- Tuesday, August 6 at 5:00

This time doesn't work, please find an alternate.

Ken

From: Browne, Cynthia
Sent: Monday, August 05, 2013 10:10 AM
To: Kopocis, Ken
Subject: RE: 316(b) Meeting -- Tuesday, August 6 at 5:00

Ken, You may want to send out a rescheduler for Wednesday, 8/7 at 1:00 pm? Thanks, Cynthia

From: Joseph Goffman [<mailto:joegoffman@gmail.com>]
Sent: Sunday, August 04, 2013 4:57 PM
To: Browne, Cynthia; Kurlansky, Ellen; Goffman, Joseph
Subject: 316(b) Meeting -- Tuesday, August 6 at 5:00

Can you please reschedule this meeting given the conflicts on my/our schedule? My Wednesday seems pretty open especially since I do not plan to attend the 1:00 PM 2.5 meeting. Thanks.

To: Barron, Alex[Barron.Alex@epa.gov]
From: Kopocis, Ken
Sent: Fri 7/26/2013 6:07:21 PM
Subject: RE: APPROVED & TRANSMITTED to OMB: Criteria and Standards for Cooling Water Intake Structures

Thanks.

From: Barron, Alex
Sent: Friday, July 26, 2013 2:06 PM
To: Kopocis, Ken
Subject: FW: APPROVED & TRANSMITTED to OMB: Criteria and Standards for Cooling Water Intake Structures

FYI

From: Muellerleile, Caryn
Sent: Friday, July 26, 2013 2:03 PM
To: Goo, Michael; Cristofaro, Alexander; Owens, Nicole; Schaaff, Lesley; Balserak, Paul; Barron, Alex
Cc: Wood, Robert; Zipf, Lynn; Hewitt, Julie; Evalenko, Sandy; Nelson, Tomeka; Scozzafava, MichaelE; Clark, Spencer
Subject: APPROVED & TRANSMITTED to OMB: Criteria and Standards for Cooling Water Intake Structures

Today OP transmitted to OMB for interagency review the economically significant 316(b) final rule.
<< OLE Object: Picture (Device Independent Bitmap) >>

The following documents were submitted for interagency review:
<< OLE Object: Picture (Device Independent Bitmap) >>

Thank you,

Caryn Muellerleile
Regulatory Management Division
Office of Policy
US Environmental Protection Agency
1200 Pennsylvania Ave NW (1806A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

To: Goo, Michael[Goo.Michael@epa.gov]
From: Kopocis, Ken
Sent: Fri 7/19/2013 1:16:16 PM
Subject: 316(b)

Any word on upload? The clock is ticking.
Thanks. ÿ

To: Acting Administrator[62Perciasepe.Bob73@epa.gov]
From: Kopocis, Ken
Sent: Mon 6/17/2013 1:35:32 PM
Subject: Accepted: 316b Discussion

To: Goo, Michael[Goo.Michael@epa.gov]
From: Kopocis, Ken
Sent: Mon 6/10/2013 6:03:43 PM
Subject: 316(b) calls

Need to discuss who and when. ÿ

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Tue 5/21/2013 1:20:52 PM
Subject: Please give me a call re 316(b)

Ken Kopocis

Office of Water

U.S. EPA

(202) 564-5700

To: Acting Administrator[62Perciasepe.Bob73@epa.gov]
From: Kopocis, Ken
Sent: Tue 5/14/2013 9:01:08 PM
Subject: Accepted: Geographic Scope of Restored Act

I am free until the 6:00 meeting on 316(b)
I can come over now - let me know.

To: Barron, Alex[Barron.Alex@epa.gov]
From: Kopocis, Ken
Sent: Fri 5/10/2013 7:47:30 PM
Subject: Fw: 316(b) follow-up information
316(b) EPA mtg follow-up.docx

FYI.

From: Ann W Loomis
Sent: Friday, May 10, 2013 2:50:43 PM
To: Kopocis, Ken; Goo, Michael; Vaught, Laura
Subject: 316(b) follow-up information

Ken and Michael,

Thank you for attending and organizing the very informative discussions last week with EEI member companies on the proposed cooling water intake structure rule. Please find attached brief responses to questions posed by your staff during our meetings. If further clarification is needed, please let me know.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

- Comparability Analysis for Alternative Technologies
 - Under the multi-pronged approach for addressing impingement, the prongs should be viewed as sequential, while giving full credit for measures already in place at each facility. If the facility does not have a pre-approved technology in place, or an alternative technology or approach has already been implemented, the facility would bear the burden of demonstrating that adding the BTA technology is not technologically or economically feasible or environmentally necessary, taking into account protective measures already in place.
 - Following that assessment, the facility would move to prong 2 and demonstrate to the permitting director that an alternative technology (e.g., wedgewire screens, acoustic deterrents, etc.), if installed at a particular site together with existing measures, would be comparable in performance to one of the pre-approved technologies.
 - Comparability would be proven by focusing on species of concern and then comparing the anticipated performance of the alternative technology, operational measures or flow reductions to the presumed performance of pre-approved technologies.
 - Prong 3 is a pathway to compliance for a limited number of facilities where a pre-approved or comparable technology is neither feasible nor cost-effective. In that case, determining an effective approach to further reducing impingement mortality should be based on the nine-entrainment factors currently discussed in the proposed rule (e.g., organisms involved, impacts on waterbody, cost-benefit analysis, etc.). This prong should not be viewed as a “do nothing” option, but as a pathway that would allow compliance and would be available to a limited number of facilities as a result of unique circumstances.

- Low Capacity Factor Units
 - Units that operate infrequently as measured by their capacity factor are essential to preserving grid reliability, maintaining system voltages within tight limits, keeping demand and supply in careful balance, and providing adequate reserve margins. Because these units are operated infrequently and derive revenues only when operated, additional operational costs to address impingement or entrainment mortality likely would make the units uneconomic and result in closures, defeating the reliability purposes they serve.
 - Units that have an annual capacity factor of 8 percent or less of their maximum or nameplate heat input, whichever is greater, averaged over a 5-year contiguous period, should be subject to a best management practices standard rather than the technology requirements applicable to other existing facility units. That standard would minimize water flow through a unit to the extent practicable, taking into consideration a plant’s current configuration and allowing for the safe, efficient and reliable operation of the unit when called upon to supply power.

- The need to handle such low use units carefully is well documented in industry comments. For example, see comments by the Utility Water Act Group, filed on August 18, 2011, at Section IV.c, pp. 24-26.
 - In 2012, these low use units represented only 0.18% of the total power (MWh) generated in the U.S.
- Repowered Units
 - EPA's proposed rule correctly treats "rebuilt, repowered, and replacement units" at existing facilities the same as existing units at existing facilities. For such units, the permitting director is to determine the best technology available for entrainment purposes considering nine site-specific factors.
 - However, EPA is apparently now considering substantially modifying this approach, by treating certain changes in equipment as "new units" that would have to meet a closed-cycle cooling standard for entrainment. Such a requirement would be inconsistent with EPA's determination that closed-cycle cooling is not best technology available to be mandated at existing facilities. And a closed-cycle cooling mandate here would have enormous negative impacts on the environment, improvements to our energy supply, and the reliability of the electric grid.
 - EPA acknowledged in the proposed rule that closed-cycle cooling can have serious adverse environmental impacts, including increased consumptive use of water, use of more land area, salt drift, increased energy consumption to run the closed-cycle system, and deleterious human health and welfare impacts, as a result of increased air emissions.
 - Requiring cooling towers upon rebuilding, repowering, and/or replacing units will result in cost and operational disincentives to replace older, inefficient generation with new efficient generating units that will use less fuel and result in fewer emissions.
 - In addition to these adverse impacts, a requirement for rebuilt, repowered, and replacement units to install closed-cycle cooling will increase greenhouse gas (GHG) emissions.
 - The requirement to install cooling towers would often be triggered by projects that are intended to reduce GHG emissions, like repowering or replacing existing coal units with natural gas units, or power uprates at nuclear facilities. The cost of cooling towers would make such projects cost-prohibitive.
 - Cooling towers increase consumptive use of water.
 - The concerns that new source review were intended to address in the Clean Air Act, namely to require emission reductions as new generating capacity is added over time, do not apply to 316(b). Under the Clean Water Act, permitting directors renew best available technology determinations in every permit renewal application. Permit writers should be given the flexibility to determine whether improvements in existing measures are needed and if so what improvements are most appropriate for each existing

facility, without a constraint to use closed-cycle cooling or its equivalent when rebuilding, repowering, or replacing a unit.

To: Ann W Loomis[ann.w.loomis@dom.com]; Goo, Michael[Goo.Michael@epa.gov]; Vaught, Laura[Vaught.Laura@epa.gov]
From: Kopocis, Ken
Sent: Fri 5/10/2013 7:14:52 PM
Subject: RE: 316(b) follow-up information

Thanks Ann. We'll give it a look and let you know if we have any questions.

Enjoy the weekend.

Ken

From: Ann W Loomis [mailto:ann.w.loomis@dom.com]
Sent: Friday, May 10, 2013 2:51 PM
To: Kopocis, Ken; Goo, Michael; Vaught, Laura
Subject: 316(b) follow-up information

Ken and Michael,

Thank you for attending and organizing the very informative discussions last week with EEI member companies on the proposed cooling water intake structure rule. Please find attached brief responses to questions posed by your staff during our meetings. If further clarification is needed, please let me know.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Stoner, Nancy[Stoner.Nancy@epa.gov]
From: Wood, Robert
Sent: Fri 3/22/2013 1:00:22 PM
Subject: RE: 316(b)

I would like to include Mary Ellen or Richard Witt in this meeting. OK?

Robert Wood
Engineering and Analysis Division
Office of Water
202-566-1822

-----Original Appointment-----

From: Stoner, Nancy
Sent: Thursday, March 21, 2013 11:35 AM
To: Stoner, Nancy; Wood, Robert; Southerland, Elizabeth; Sussman, Bob; Kopocis, Ken; Hewitt, Julie; Penman, Crystal; Goo, Michael; Barron, Alex
Cc: Maddox, Donald
Subject: 316(b)
When: Friday, March 22, 2013 1:00 PM-1:45 PM (GMT-05:00) Eastern Time (US & Canada).
Where: 3309 ARN

To: Stoner, Nancy[Stoner.Nancy@epa.gov]
Cc: Maddox, Donald[Maddox.Donald@epa.gov]
From: Sussman, Bob
Sent: Thur 3/21/2013 11:32:03 PM
Subject: RE: 316b mtg

Thanks. Adding Don.

Robert M. Sussman
 Senior Policy Counsel to Administrator
 Office of the Administrator
 U.S. Environmental Protection Agency
 Washington DC
 (202)-564-7397

-----Original Message-----

From: Stoner, Nancy
 Sent: Thursday, March 21, 2013 7:31 PM
 To: Sussman, Bob
 Subject: RE: 316b mtg

That works. Let's make it 1.

-----Original Message-----

From: Sussman, Bob
 Sent: Thursday, March 21, 2013 7:13 PM
 To: Stoner, Nancy
 Subject: RE: 316b mtg

Hope you're there. I can't do 12 but could do 1;00.

Robert M. Sussman
 Senior Policy Counsel to Administrator
 Office of the Administrator
 U.S. Environmental Protection Agency
 Washington DC
 (202)-564-7397

-----Original Message-----

From: Stoner, Nancy
 Sent: Thursday, March 21, 2013 5:26 PM
 To: Sussman, Bob
 Subject: Re: 316b mtg

I'll talk w/Ken. I just had the pre-mtg thinking that this was at noon tomorrow

From: Sussman, Bob
 Sent: Thursday, March 21, 2013 5:07:27 PM
 To: Stoner, Nancy
 Subject: Fw: 316b mtg

Are you ok going ahead with the mtg wo you?

From: Maddox, Donald
 Sent: Thursday, March 21, 2013 4:42:48 PM

To: Sussman, Bob
Subject: RE: 316b mtg

According to Office of Policy they confirmed with OW that Ken would take the meeting at 4:00 for Nancy. So you should talk to Ken to confirm. I can't reach Crystal(Ken and Nancy's assistant) right now.

Don

Office of the Deputy Administrator &
Office of the Senior Policy Counsel
maddox.donald@epa.gov
Office: 202-564-8443
Direct: 202-564-7207

-----Original Message-----

From: Sussman, Bob
Sent: Thursday, March 21, 2013 4:32 PM
To: Maddox, Donald
Subject: Re: 316b mtg

Has to be before Nancy leaves the office in the afternoon.

From: Maddox, Donald
Sent: Thursday, March 21, 2013 4:11:34 PM
To: Sussman, Bob
Subject: RE: 316b mtg

I have seen no movement on it. What time were they proposing.....because your morning is about full!

Office of the Deputy Administrator &
Office of the Senior Policy Counsel
maddox.donald@epa.gov
Office: 202-564-8443
Direct: 202-564-7207

-----Original Message-----

From: Sussman, Bob
Sent: Thursday, March 21, 2013 4:09 PM
To: Maddox, Donald
Subject: 316b mtg

Did Goo move this mtg to the am so Nancy can come?
ÿ

To: Kopocis, Ken[Kopocis.Ken@epa.gov]; Stoner, Nancy[Stoner.Nancy@epa.gov]
From: Goo, Michael
Sent: Wed 3/20/2013 1:09:17 PM
Subject: Meeting with Tony Earley

CEO of PG and E is at 10:15. Bob agreed OW should come. 316b de minimis will be discussed. You should get an invite but if not its the bullet room I think. ÿ

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Hewitt, Julie[Hewitt.Julie@epa.gov]
Cc: Vaught, Laura[Vaught.Laura@epa.gov]
From: Kopocis, Ken
Sent: Tue 4/30/2013 4:32:36 PM
Subject: FW: 316 (b) meetings w/ Ken Kopocis

Betsy and Julie,

Here are the topics for the meetings. Please extend the invitation to your co-workers as you think appropriate so the right people are in the room to listen.

Thanks,

Ken

From: Ann W Loomis [mailto:ann.w.loomis@dom.com]
Sent: Tuesday, April 30, 2013 12:16 PM
To: Penman, Crystal
Cc: Kopocis, Ken
Subject: RE: 316 (b) meetings w/ Ken Kopocis

Thank you for providing these times for the meetings this week. As indicated on my reply to the meeting invite, on Wednesday we would like to discuss Impingement Mortality, the use of barrier nets, entrapment and carry-over, a provision for facilities that have *de minimis* impacts, and the need for recognition of facilities that operate infrequently.

Attending Wednesday's meeting will be:

Ann Loomis – Dominion

Ray Butts – NextEra

Amy Trojecki – Exelon

Melissa Lavinson – Pacific Gas & Electric

Russ Furnari – PSEG

Rich Bozek – EEI

On Thursday, we would like to discuss the stated-preference survey results, the closed-cycle cooling definition and the treatment of new/repowered/retrofitted units.

Attending Thursday's meeting will be:

Ray Butts – NextEra

Bill Skaff – NEI

Rich Bozek – EEI

Amy Trojecki – Exelon

Please let me know if you have any questions.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

From: Penman, Crystal [<mailto:Penman.Crystal@epa.gov>]
Sent: Monday, April 29, 2013 5:18 PM
To: Ann W Loomis (Services - 6)
Subject: 316 (b) meetings w/ Ken Kopocis

The following meeting will take place:

316(b)

Wednesday, May 1, 2013 @ 1pm -2pm

Thursday, May 2, 2013 @ 1pm-2pm

Crystal Penman

Office of Water

1201 Constitution Ave, NW

Washington, DC 20004

202-564-3318

Penman.Crystal@EPA.gov

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Kopocis, Ken
Sent: Mon 4/29/2013 8:44:18 PM
Subject: Fw: 316b meetings

Ann's e-mail address and phone is in this chain.
Thanks.
Ken.

From: Ann W Loomis
Sent: Saturday, April 27, 2013 9:00:03 AM
To: Kopocis, Ken
Subject: Re: 316b meetings

Thanks. I'll get back to you on the subjects for each meeting and the attendees.

Ann

From: Kopocis, Ken [mailto:Kopocis.Ken@epa.gov]
Sent: Saturday, April 27, 2013 07:45 AM
To: Ann W Loomis (Services - 6)
Subject: Re: 316b meetings

Ann, we have scheduled Wednesday at 11:00 and Thursday at 1:00. I will send the room number next week.
Please let me know the topics for each session.
Thanks and have a good weekend.
Ken.

From: Ann W Loomis
Sent: Friday, April 26, 2013 11:00:05 AM
To: Kopocis, Ken
Subject: RE: 316b meetings

Thanks.

From: Kopocis, Ken [mailto:Kopocis.Ken@epa.gov]
Sent: Friday, April 26, 2013 10:59 AM
To: Ann W Loomis (Services - 6)
Subject: Re: 316b meetings

So far, I can tell you we are looking at Wednesday and Thursday.
Setting times is taking a little time.
Will be today though.
Ken.

From: Ann W Loomis
Sent: Friday, April 26, 2013 10:49:53 AM
To: Kopocis, Ken
Subject: 316b meetings

Ken,

I understand from Laura that your office will be scheduling the 316b meetings as there are OW staff that need to be there. We look forward to hearing from you as soon as possible so that we can organize the few people from our side who will attend. Here's my email so you can reach me. Cell is 202-997-1849.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Ann W Loomis[ann.w.loomis@dom.com]
From: Kopocis, Ken
Sent: Sat 4/27/2013 11:45:44 AM
Subject: Re: 316b meetings

Ann, we have scheduled Wednesday at 11:00 and Thursday at 1:00. I will send the room number next week.

Please let me know the topics for each session.

Thanks and have a good weekend.

Ken.

From: Ann W Loomis
Sent: Friday, April 26, 2013 11:00:05 AM
To: Kopocis, Ken
Subject: RE: 316b meetings

Thanks.

From: Kopocis, Ken [mailto:Kopocis.Ken@epa.gov]
Sent: Friday, April 26, 2013 10:59 AM
To: Ann W Loomis (Services - 6)
Subject: Re: 316b meetings

So far, I can tell you we are looking at Wednesday and Thursday.

Setting times is taking a little time.

Will be today though.

Ken.

From: Ann W Loomis
Sent: Friday, April 26, 2013 10:49:53 AM
To: Kopocis, Ken
Subject: 316b meetings

Ken,

I understand from Laura that your office will be scheduling the 316b meetings as there are OW

staff that need to be there. We look forward to hearing from you as soon as possible so that we can organize the few people from our side who will attend. Here's my email so you can reach me. Cell is 202-997-1849.

Thanks,

Ann

Ann Loomis

Senior Advisor for Federal &

Environmental Policy

Dominion

202-585-4205

P Think Green - please do not print this email unless necessary

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and/or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Kopocis, Ken
Sent: Thur 4/25/2013 10:51:42 PM
Subject: Two meetings next week

I need you to set up two meetings next week. One hour each, one on Wednesday and one on Thursday. Meetings on 316(b), OST will participate. Once set up, I will get you outside contact information.

Thanks,

Ken Kopocis

Office of Water

U.S. EPA

(202) 564-5700

To: Vaught, Laura[Vaught.Laura@epa.gov]
From: Kopocis, Ken
Sent: Thur 4/25/2013 5:58:08 PM
Subject: 316(b). Discussion

I spoke with Ann Loomis today. I told her we would be looking to have our meetings next week (not Friday).

Will you be coordinating, or do you want OW to do so?

Ken ÿ

To: Porterfield, Teri[Porterfield.Teri@epa.gov]; Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]
Cc: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]
From: Kopocis, Ken
Sent: Fri 4/19/2013 1:41:58 PM
Subject: Re: Is 316b mtg at noon political only?

Whatever is Bob's preference on schedule.

From: Porterfield, Teri
 Sent: Friday, April 19, 2013 9:40:19 AM
 To: Kopocis, Ken; Gilinsky, Ellen
 Cc: Southerland, Elizabeth
 Subject: RE: Is 316b mtg at noon political only?

OK - should I keep the 316b on for today and just remove Betsy and Rob???

-----Original Message-----

From: Kopocis, Ken
 Sent: Friday, April 19, 2013 9:31 AM
 To: Gilinsky, Ellen; Porterfield, Teri
 Cc: Southerland, Elizabeth
 Subject: Re: Is 316b mtg at noon political only?

The only reason for Rob and Betsy would be to discuss Steam Electric.
 They are not necessary for 316(b). They are more valuable on ELG today.

From: Gilinsky, Ellen
 Sent: Friday, April 19, 2013 9:20:08 AM
 To: Porterfield, Teri
 Cc: Southerland, Elizabeth; Kopocis, Ken
 Subject: Re: Is 316b mtg at noon political only?

We are in a meeting right now. Rob and betsy slammed with steam electric does this have to be today?

From: Porterfield, Teri
 Sent: Friday, April 19, 2013 9:18:10 AM
 To: Gilinsky, Ellen
 Cc: Southerland, Elizabeth
 Subject: RE: Is 316b mtg at noon political only?

Per Don Maddox - Bob Sussman wanted to include Betsy and Ron Wood. Don Maddox is getting ready to call you...

-----Original Message-----

From: Gilinsky, Ellen
 Sent: Friday, April 19, 2013 9:16 AM
 To: Porterfield, Teri
 Cc: Southerland, Elizabeth
 Subject: Is 316b mtg at noon political only?

Some confusion as betsy just got invite
 ÿ

To: Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]
From: Kopocis, Ken
Sent: Thur 4/18/2013 8:35:16 PM
Subject: RE: Do you all need any materials for 316(b) SP discussion tomorrow?

I believe I do.

From: Gilinsky, Ellen
Sent: Thursday, April 18, 2013 3:14 PM
To: Kopocis, Ken
Subject: Fw: Do you all need any materials for 316(b) SP discussion tomorrow?

Do you?

From: Hewitt, Julie
Sent: Thursday, April 18, 2013 3:01:22 PM
To: Gilinsky, Ellen
Cc: Southerland, Elizabeth; Wood, Robert
Subject: Do you all need any materials for 316(b) SP discussion tomorrow?

The invite appears to be just political, incl. you, Ken and Nancy, but I'm not sure who from OW can actually go.

OP sent some materials forward, FYI. Attached, thanks to Mike Scozzafava. The FAQ page is fine; I'm not sure why the other page is about what the 2004 rule said, although I think it's all correct, too. Ex. 5 - Deliberative

Also FYI: Gina fielded a question about SP surveys at her confirmation hearing. I don't know the particulars of the question, but her response was basically "SP is a tool that the Agency has used in the past, and it is discussed in EPA's peer-reviewed Guidelines for Preparing Economic Analyses. I commit if confirmed to ensuring quality economic analyses."

To: Vaught, Laura[Vaught.Laura@epa.gov]
From: Kopocis, Ken
Sent: Thur 4/18/2013 7:29:37 PM
Subject: 316b
[316b.doc](#)

Here are my thoughts.

Ken

To: Lousberg, Macara[Lousberg.Macara@epa.gov]; Stoner, Nancy[Stoner.Nancy@epa.gov]; Shapiro, Mike[Shapiro.Mike@epa.gov]; Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]
From: Kopocis, Ken
Sent: Fri 4/5/2013 7:27:59 PM
Subject: RE: Transition materials
OW Transition Materials 4 5 13kk comments.doc

I attached a version with my comments.

Thanks,

Ken

From: Lousberg, Macara
Sent: Friday, April 05, 2013 7:48 AM
To: Stoner, Nancy; Shapiro, Mike; Kopocis, Ken; Gilinsky, Ellen
Subject: Transition materials

I've attached (and will drop off hard copies) OW's transition write ups for your review. Our submission is due to OP on Monday. I apologize for getting these to you late, but there was some misinterpretation of instructions by one office so I wasn't able to finish incorporating their input until this morning. If you have any edits, please let me know.

Macara

To: Stoner, Nancy[Stoner.Nancy@epa.gov]
From: Kopocis, Ken
Sent: Fri 4/5/2013 7:13:04 PM
Subject: FW: Briefs in the Entergy Supreme Court case
[EPA brief in opposition to cert.pdf](#)
[Entergy - opening brief.pdf](#)
[07-588 Entergy reply brief.pdf](#)

Somewhere you fell out of the e-mail chain.

From: Witt, Richard
Sent: Friday, April 05, 2013 3:11 PM
To: Kopocis, Ken
Cc: Levine, MaryEllen
Subject: Briefs in the Entergy Supreme Court case

Per your request to Mary Ellen, I've enclosed the briefs. The brief in opposition to cert. we filed is a so-called soft opposition because we said if the court granted cert. we would agree that Second Circuit got it wrong.

Ex. 5 - Deliberative

Nos. 07-588, 07-589 and 07-597

In the Supreme Court of the United States

ENTERGY CORPORATION, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

PSEG FOSSIL LLC, ET AL., PETITIONERS

v.

RIVERKEEPER INC., ET AL.

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER INC., ET AL.

*ON PETITIONS FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT*

**BRIEF FOR THE FEDERAL RESPONDENTS
IN OPPOSITION**

PAUL D. CLEMENT
*Solicitor General
Counsel of Record*

RONALD J. TENPAS
Assistant Attorney General

DAVID S. GUALTIERI
CYNTHIA J. MORRIS
JESSICA O'DONNELL
Attorneys

*Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217*

QUESTIONS PRESENTED

1. Whether Section 316(b) of the Clean Water Act, 33 U.S.C. 1326(b), authorizes the Environmental Protection Agency (EPA) to compare costs with benefits in determining the “best technology available for minimizing adverse environmental impact” at cooling water intake structures.

2. Whether Section 316(b) prohibits the use of restoration measures as a means of minimizing the adverse environmental impact associated with cooling water intake structures.

3. Whether Section 316(b) authorizes EPA to regulate cooling water intake structures at existing facilities, as well as at new facilities.

(I)

TABLE OF CONTENTS

	Page
Opinion below.....	1
Jurisdiction.....	2...
Statement.....	2.
Argument.....	9
Conclusion.....	25

TABLE OF AUTHORITIES

Cases:

<i>American Textile Mfrs. Inst. v. Donovan</i> , 452 U.S. 490 (1981)	11
<i>Appalachian Power Co. v. Train</i> , 566 F.2d 451 (4th Cir. 1977)	4
<i>Barnhart v. Walton</i> , 535 U.S. 212 (2002)	11
<i>BP Exploration & Oil, Inc. v. United States EPA</i> , 66 F.3d 784 (6th Cir. 1995)	11
<i>Chevron U.S.A. Inc. v. NRDC</i> , 467 U.S. 837 (1984) ..	11, 23
<i>Citizens Coal Council v. United States EPA</i> , 447 F.3d 879 (6th Cir. 2006)	11
<i>EPA v. National Crushed Stone Ass'n</i> , 449 U.S. 64 (1980)	14
<i>Garcia v. DHS</i> , 437 F.3d 1322 (Fed. Cir. 2006)	24
<i>Holderfield v. MSPB</i> , 326 F.3d 1207 (Fed. Cir. 2003) ...	23
<i>King v. Department of the Navy</i> , 130 F.3d 1031 (Fed. Cir. 1997)	24
<i>Michigan v. United States EPA</i> , 213 F.3d 663 (D.C. Cir. 2000), cert. denied, 532 U.S. 903, and 532 U.S. 904 (2001)	12
<i>NLRB v. City Disposal Sys., Inc.</i> , 465 U.S. 822 (1984) ..	23

(III)

IV

Cases—Continued:	Page
<i>Northern Ill. Steel Supply Co. v. Secretary of Labor</i> , 294 F.3d 844 (7th Cir. 2002)	24
<i>NRDC v. United States EPA</i> , 859 F.2d 156 (D.C. Cir. 1988)	20, 21
<i>Riverkeeper, Inc. v. United States EPA</i> , 358 F.3d 174 (2d Cir. 2004)	5
<i>Seacoast Anti-Pollution League v. Costle</i> , 597 F.2d 306 (1st Cir. 1979)	9, 13
<i>Sierra Club v. United States EPA</i> , 314 F.3d 735 (5th Cir. 2002)	12
<i>Travelers Cas. & Sur. Co. of Am. v. Pacific Gas & Elec. Co.</i> , 127 S. Ct. 1199 (2007)	22
<i>United States v. Gabriel</i> , 125 F.3d 89 (2d Cir. 1997)	22
<i>United States Steel Corp. v. Train</i> , 556 F.2d 822 (7th Cir. 1977)	20
<i>Virginia Elec. & Power Co. v. EPA</i> , 566 F.2d 446 (4th Cir. 1977)	21

Statutes and regulations:

Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 <i>et seq.</i> :	
33 U.S.C. 1251(a)	19
33 U.S.C. 1311 (§ 301)	<i>passim</i>
33 U.S.C. 1311(b)	18
33 U.S.C. 1311(b)(1)(A)	3, 10, 11
33 U.S.C. 1311(b)(2)(A)	3, 10, 11
33 U.S.C. 1314(b)(1)(B)	3, 10
33 U.S.C. 1314(b)(2)(B)	3, 10
33 U.S.C. 1316 (§ 306)	<i>passim</i>

V

Statutes and regulations—Continued:	Page
33 U.S.C. 1316(a)(1)	3, 10
33 U.S.C. 1316(b)	18
33 U.S.C. 1326(b) (§ 316(b))	<i>passim</i>
33 U.S.C. 1342	4
33 U.S.C. 1342(a)(1) (§ 402(a)(1))	20
33 U.S.C. 1342(a)(3)	14
33 U.S.C. 1342(b)(1)(B)	14
33 U.S.C. 1369(b)(1)(E)	21
National Environmental Policy Act of 1969, 42 U.S.C. 4321 <i>et seq.</i>	21
40 C.F.R.:	
Section 125.84(d)(1)	16
Section 125.90(a)	4
Section 125.94(a)(1)-(4)	5
Section 125.94(a)(5)	5
Section 125.94(b)	5
Section 125.94(c)	8
Section 401.14	4
Miscellaneous:	
<i>Central Hudson Gas & Elec. Corp., In re</i> , Op. EPA Gen. Counsel, NPDES No. 63, 1977 WL 28250 (July 29, 1977)	4, 15, 19
41 Fed. Reg. 17,387 (1976)	4
44 Fed. Reg. (1979):	
p. 32,854	4
p. 32,956	4

VI

Miscellaneous—Continued:	Page
66 Fed. Reg. (2001):	
p. 65,256	4
pp. 65,270-65,271	5
69 Fed. Reg. (2004):	
p. 41,576	5
pp. 41,598-41,599	5
p. 41,599	5
p. 41,605	6, 15
pp. 41,605-41,606	6
p. 41,606	6
p. 41,608	14
71 Fed. Reg. (2006):	
p. 35,006	5
p. 35,011	19
p. 35,015	16
Office of Water, EPA, <i>Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule</i> (2004)	14
Staff of the Senate Comm. on Public Works, 93d Cong., 1st Sess., <i>A Legislative History of the Water Pollution Control Act Amendments of 1972</i> (Comm. Print 1973)	13

In the Supreme Court of the United States

No. 07-588

ENTERGY CORPORATION, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 07-589

PSEG Fossil LLC, ET AL., PETITIONERS

v.

RIVERKEEPER INC., ET AL.

No. 07-597

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER INC., ET AL.

*ON PETITIONS FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT*

**BRIEF FOR THE FEDERAL RESPONDENTS
IN OPPOSITION**

OPINION BELOW

The opinion of the court of appeals (07-589 Pet. App. 1a-86a) is reported at 475 F.3d 83.

(1)

JURISDICTION

The judgment of the court of appeals was entered on January 25, 2007. A petition for rehearing was denied on July 5, 2007 (07-589 Pet. App. 87a-89a). On September 25, 2007, Justice Ginsburg extended the time within which to file a petition for a writ of certiorari to and including November 2, 2007, and the petitions were filed on that date. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

1. Steam electric power plants and other industrial and manufacturing facilities employ cooling water intake structures (intake structures) to absorb heat. The intake structures at such plants collectively withdraw large amounts of water each day from the Nation's lakes, rivers, and other water bodies. Among the adverse environmental impacts that occur as those structures withdraw water are "impingement," which occurs when aquatic organisms are trapped against the intake structures by the force of the inflowing water, and "entrainment," which occurs when smaller organisms are pulled into a facility's cooling system. See 07-589 Pet. App. 2a.

Section 316(b) of the Clean Water Act (CWA or the Act) requires that "[a]ny standard established pursuant to" Section 301 or 306 of the Act "and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." 33 U.S.C. 1326(b). That provision is unique among CWA provisions in that it addresses the *intake* of water, in contrast to other

provisions that regulate the *discharge* of pollutants into waters of the United States.

The CWA does not define the substantive standard specified in Section 316(b)—“best technology available for minimizing adverse environmental impact” (BTA). 33 U.S.C. 1326(b). Section 316(b) does, however, cross-reference Sections 301 and 306 of the CWA by requiring that any standards established pursuant to those sections also require that intake structures reflect the BTA. *Ibid.* Section 301 authorizes the Environmental Protection Agency (EPA) to establish, among other things, effluent limitations based on the “best practicable control technology currently available” (BPT) or the “best available technology economically achievable” (BAT). 33 U.S.C. 1311(b)(1)(A) and (2)(A). Section 306 directs EPA to establish performance standards based on the “best available demonstrated control technology” (BADT). 33 U.S.C. 1316(a)(1).

The CWA specifies that, in establishing BPT, EPA must consider, among other factors, “the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application * * * and such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(1)(B). In determining BAT, EPA may consider factors similar to the BPT factors, including “the cost of achieving such effluent reduction * * * and such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(2)(B). The limitations and standards promulgated under Sections 301, 306, and 316(b) are implemented through National Pollutant Discharge Elimination System (NPDES) permits, which are issued for terms of up to five years, either by States with approved NPDES programs or, in States without an ap-

proved NPDES program, by EPA. See 33 U.S.C. 1342; 40 C.F.R. 125.90(a).

2. a. EPA first promulgated regulations implementing Section 316(b) in 1976. 41 Fed. Reg. 17,387. The Fourth Circuit remanded those regulations to EPA for procedural reasons. *Appalachian Power Co. v. Train*, 566 F.2d 451 (1977). When EPA subsequently withdrew the remanded regulations, it left intact a separate provision, which had not been remanded, that directs permitting authorities to use their best professional judgment to determine the BTA for each facility on a case-by-case basis. See 44 Fed. Reg. 32,854, 32,956 (1979); 40 C.F.R. 401.14. In 1977, EPA also issued a General Counsel opinion confirming its previous interpretation that, while Section 316(b) does not require a full cost-benefit analysis, it would be unreasonable “to interpret Section 316(b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained.” *In re Central Hudson Gas & Elec. Corp.*, Op. EPA Gen. Counsel, NPDES No. 63, 1977 WL 28250, at *8 (July 29, 1977) (citation omitted). Thus, for more than 30 years, permitting authorities have considered costs and benefits to at least that extent in determining a facility’s BTA.

b. In 1995, EPA entered into a consent decree establishing deadlines for proposing and taking final action on regulations implementing Section 316(b). That consent decree was later amended to provide for three phases of rulemaking addressing different categories of facilities. See 07-589 Pet. App. 4a-5a.

EPA published a Phase I rule in 2001. 66 Fed. Reg. 65,256. That rule governs new facilities that meet certain threshold specifications, and it provides that closed-cycle cooling technology (which reuses withdrawn wa-

ter) is generally the BTA for such facilities. *Id.* at 65,270-65,271. The Second Circuit largely upheld the Phase I rule. *Riverkeeper, Inc. v. United States EPA*, 358 F.3d 174, 181 (2004). The Phase II rule, which is at issue here, establishes requirements for intake structures at large, existing power plants that meet certain threshold specifications. 69 Fed. Reg. 41,576 (2004). The Phase III Rule, which governs new offshore and coastal oil and gas facilities and existing manufacturing and industrial facilities and smaller power plants, see 71 Fed. Reg. 35,006 (2006), is pending review in the Fifth Circuit. *ConocoPhillips Co. v. EPA*, No. 06-60662 (filed July 14, 2006).

In the Phase II rule at issue here, EPA selected a suite of technologies to reflect the BTA. 69 Fed. Reg. at 41,598-41,599. Those technologies include, among others, relocation of intakes, fine mesh passive screens, double-entry single exit traveling screens, velocity caps, larger intakes to decrease intake velocity, and barrier nets. See *id.* at 41,599. Based on that suite of technologies, EPA adopted national performance standards for reducing impingement mortality by 80%-95% and entrainment by 60%-90%. 40 C.F.R. 125.94(b). Facilities may use any combination of control technologies or operational controls, including restoration measures, to meet those standards. 40 C.F.R. 125.94(a)(1)-(4). A facility may request a variance that results in a site-specific BTA determination if the facility demonstrates that the cost of complying with the national performance standards is significantly greater than the benefits of compliance. 40 C.F.R. 125.94(a)(5).

EPA considered treating closed-cycle recirculating cooling towers, which it had determined to be the BTA for (new) Phase I facilities, as the BTA for (existing)

Phase II facilities. See 69 Fed. Reg. at 41,605-41,606. EPA rejected that alternative, however, because of its “generally high costs (due to conversions), the fact that other technologies approach the performance of this option, concerns for energy impacts due to retrofitting existing facilities, and other considerations.” *Id.* at 41,605. EPA explained that: the cost of closed-cycle recirculating cooling towers for Phase II facilities was many times higher than for Phase I facilities (at least \$130-\$200 million per tower, and probably more than that, with additional annual operating costs up to \$20 million per facility); such cooling towers were less energy efficient than EPA’s chosen alternatives; and, “[a]lthough not identical, the ranges of impingement and entrainment reduction are similar” under EPA’s chosen option and the closed-cycle alternative. *Id.* at 41,605, 41,606.

3. After several parties petitioned for review, the petitions were consolidated in the Second Circuit. See 07-589 Pet. App. 1a-86a. As relevant here, the court of appeals held that: (i) EPA may not consider the relationship between an alternative’s costs and benefits in determining the BTA, *id.* at 17a-33a; (ii) Section 316(b) precludes the use of restoration measures as a means of minimizing adverse environmental impacts, *id.* at 40a-45a; and (iii) EPA may apply Section 316(b)’s requirements to both new and existing facilities through the NPDES permit process, *id.* at 65a-70a.

a. The court of appeals recognized that “Section 316(b) does not itself set forth * * * the specific factors that the EPA must consider in determining BTA.” 07-589 Pet. App. 18a. Because Section 316(b) cross-references Sections 301 and 306, however, the court looked to the factors that EPA may consider in implementing

various standards under those sections. *Id.* at 18a-20a. While those standards treat costs in different ways, including by requiring cost-benefit analysis in some circumstances, the court concluded that Congress had manifested a clear intent in those other provisions “to move cost considerations under the CWA from a cost-benefit analysis to a cost-effectiveness one.” *Id.* at 20a. The court further asserted that, if Congress had intended to permit a comparison of costs and benefits, it would have said so expressly in the statute. *Id.* at 22a-23a.

The court of appeals then held that EPA may not engage in cost-benefit analysis, but instead “may permissibly consider cost in two ways: (1) to determine what technology can be ‘reasonably borne’ by the industry and (2) to engage in cost-effectiveness analysis.” 07-589 Pet. App. 23a. After consulting the definition of “cost-effectiveness” found in an Office of Management and Budget (OMB) circular, the court explained that, in its view, permissible cost-effectiveness review is limited to choosing “a less expensive technology that achieves essentially the same results” as the best technology that industry can reasonably bear. *Id.* at 20a n.10, 23a-24a. “For example, assuming the EPA has determined that power plants governed by the Phase II Rule can reasonably bear the price of technology that saves between 100-105 fish, the EPA, given a choice between a technology that costs \$100 to save 99-101 fish and one that costs \$150 to save 100-103 fish * * * could appropriately choose the cheaper technology on cost-effectiveness grounds.” *Id.* at 24a. Thus, the court concluded, “the specified level of benefit is * * * a narrowly bounded range, within which the EPA may permissibly choose between two (or more) technologies that produce essen-

tially the same benefits but have markedly different costs.” *Id.* at 25a.

The court of appeals then remanded to EPA because, in the court’s view, “it is unclear whether the Agency improperly weighed the benefits and the costs of requiring closed-cycle cooling.” 07-589 Pet. App. 29a. Based in part on its cost-benefit holding, the court also invalidated the provision of the Phase II rule that authorized site-specific variances based on a comparison of costs and benefits at particular sites. *Id.* at 52a.

b. The court of appeals went on to hold that Section 316(b) unambiguously precludes EPA from considering restoration measures, such as restocking of fish and improvement of surrounding habitat, in determining the BTA for a facility. 07-589 Pet. App. 40a-45a. In limited circumstances, EPA had allowed facilities to use such measures to offset the adverse environmental impacts that would otherwise be caused by the operation of an intake structure. 40 C.F.R. 125.94(c). In the court of appeals’ view, however, such mitigation measures do not “minimize” adverse environmental impacts within the meaning of Section 316(b), but instead “substitute after-the-fact compensation for adverse environmental impacts that have already occurred.” 07-589 Pet. App. 44a.

c. The court of appeals also upheld EPA’s determination that Section 316(b) applies to existing as well as new facilities. 07-589 Pet. App. 65a-70a. The court explained that “[S]ection 316(b), on its face, applies to existing facilities” because it cross-references Section 301, which applies to existing facilities. *Id.* at 68a. “At the very least,” the court concluded, “EPA’s view that section 316(b) applies to existing facilities is a reasonable interpretation of the statute.” *Ibid.*

In so holding, the court of appeals rejected the contention that EPA could not use the NPDES permitting process to enforce Section 316(b)'s requirements against existing facilities. 07-589 Pet. App. 68a-70a. The court noted that EPA must enforce Section 316(b) against existing facilities through "some permit process," and NPDES permits are "used to enforce the effluent limitations of sections 301 and 306." *Id.* at 69a. Thus, the court held, "EPA's decision to use the NPDES process to enforce section 316(b) is not unreasonable." *Ibid.*

ARGUMENT

1. Petitioners contend (e.g., 07-589 Pet. 17-27) that the court of appeals erred in holding that, in determining the BTA, EPA may not consider the relationship between a technology's costs and benefits. The government agrees. The court of appeals' holding to that effect is wrong, and is in tension with *Seacoast Anti-Pollution League v. Costle*, 597 F.2d 306 (1st Cir. 1979). There is, however, no square circuit conflict on that question. And, while the question presented has great significance, it is not yet clear whether the decision is sufficiently important to merit the Court's review.

To be sure, the uncertainty created by the erroneous decision below may have significant repercussions for facilities that undergo permitting decisions before the remand proceedings are completed. In the government's view, however, the full impact of the decision will not be clear until EPA completes proceedings on remand. For that reason, the government decided not to file a petition for a writ of certiorari in this case. If this Court were to grant the petitions, however, the government would support the position of the petitioners on this issue.

a. The court of appeals' holding that Section 316(b) unambiguously precludes comparison of a technology's costs and benefits is incorrect. Section 316(b) requires EPA to select the "best technology available for minimizing adverse environmental impact." 33 U.S.C. 1326(b). As the court of appeals recognized, "Section 316(b) does not itself set forth * * * the specific factors that the EPA must consider in determining BTA." 07-589 Pet. App. 18a.

Nor does anything in the general statutory phrase preclude EPA's conclusion that the statute permits consideration of cost-benefit analysis in determining the BTA. The "best" technology for minimizing adverse impacts is not necessarily the one that provides the greatest reduction of such impacts, without regard to any other considerations. Section 316(b) cross-references Sections 301 and 306 of the Act, which direct EPA to adopt various other "best" standards: the "best practicable control technology currently available" (BPT); the "best available technology economically achievable" (BAT); and the "best available demonstrated control technology" (BADT). See 33 U.S.C. 1311(b)(1)(A) and (2)(A), 1316(a)(1), 1326(b). Congress specified that, in establishing BPT, EPA must consider, among other factors, "the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application * * * and such other factors as the Administrator deems appropriate." 33 U.S.C. 1314(b)(1)(B). In determining BAT, EPA is not *required* to consider the relationship between costs and benefits, but Congress expressly provided that the agency may consider "the cost of achieving such effluent reduction * * * and such other factors as the Administrator deems appropriate." 33 U.S.C. 1314(b)(2)(B).

Those statutory provisions confirm that “the CWA’s requirement that EPA choose the ‘best’ technology does not mean that the chosen technology must be the best [at] pollutant removal.” *Citizens Coal Council v. United States EPA*, 447 F.3d 879, 903 (6th Cir. 2006) (en banc) (quoting *BP Exploration & Oil, Inc. v. United States EPA*, 66 F.3d 784, 796 (6th Cir. 1995)).¹

The court of appeals asserted that, if Congress had intended to permit consideration of the relationship between costs and benefits, it would have clearly said so. 07-589 Pet. App. 22a-23a. By treating statutory silence as an unambiguous prohibition, the court turned normal rules of statutory construction and *Chevron* deference on their head. “[S]uch silence, after all, normally creates ambiguity. It does not resolve it.” *Barnhart v. Walton*, 535 U.S. 212, 218 (2002); see *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 843-844 (1984). Moreover, the court of appeals erred in construing *American Textile Manufacturers Institute v. Donovan*, 452 U.S. 490, 510 (1981), to erect a presumption against consideration of the relationship between costs and benefits. See 07-589 Pet. App. 22a-23a. *Donovan* upheld an agency’s determination that it was not *required* to undertake cost-benefit analysis under a different statute. *Donovan*, 452 U.S. at 506. Thus, *Donovan*—which predated

¹ The court of appeals asserted that BTA is more akin to BAT than BPT, and construed BAT (unlike BPT) to preclude cost-benefit analysis. 07-589 Pet. App. 18a-20a. All three standards, however, include the terms “best,” “technology,” and “available,” and neither the BAT nor the BPT standard goes on to consider minimizing adverse environmental impacts. See 33 U.S.C. 1311(b)(1)(A) and (2)(A), 1326(b). As such, the court of appeals erred in concluding that the Act unambiguously treats BTA like BAT (but not BPT) for this purpose.

Chevron in any event—did not hold that silence unambiguously *precludes* consideration of costs and benefits.

More recent decisions applying *Chevron* principles of statutory construction have construed congressional silence as permitting cost-benefit analysis. See, e.g., *Sierra Club v. United States EPA*, 314 F.3d 735, 744 (5th Cir. 2002); *Michigan v. United States EPA*, 213 F.3d 663, 678-679 (D.C. Cir. 2000), cert. denied, 532 U.S. 903, and 532 U.S. 904 (2001). The District of Columbia Circuit, for example, has explained that “[i]t is only where there is clear congressional intent to preclude consideration of cost that we find agencies barred from considering costs.” *Id.* at 678 (internal quotation marks and citation omitted). The court of appeals erred by relying on the opposite presumption in this case.

The court of appeals confirmed its error by purporting to micro-manage the agency’s decisionmaking by establishing rules that cannot be found anywhere in the Act. The court concluded, for example, that EPA may consider costs as part of cost-effectiveness but not cost-benefit analysis—terms that appear nowhere in the statute. After consulting the definition of “cost-effectiveness” found in an OMB circular that does not purport to interpret Section 316(b), the court proclaimed that EPA could adopt a significantly cheaper technology that would save 99-101 fish instead of 100-103 fish. 07-589 Pet. App. 20a & n.10, 24a. While it is not clear what result the court of appeals would reach if five or ten fish were potentially affected instead of one or two, the point for present purposes is that the court of appeals’ free-lancing violates *Chevron* by usurping the agency’s role of construing and filling in an ambiguous statute.

Indeed, the court of appeals also agreed to let EPA consider other practical factors, such as energy effi-

ciency and countervailing environmental effects. 07-589 Pet. App. 24a n.12. While those factors are very important considerations, the lines drawn by the court of appeals between what it will and will not permit the agency to consider are by no means required by the statute; instead, they are simply the court of appeals' preferences imposed on the agency, in violation of *Chevron*.

b. The court of appeals' decision is also in tension with the First Circuit's decision in *Seacoast*, *supra*. In determining the BTA in that case under Section 316(b), EPA rejected an alternative that would have further minimized entrainment "only slightly," and would have cost an additional \$20 million. *Seacoast*, 597 F.2d at 311. EPA rejected that alternative because "the costs would be 'wholly disproportionate to any environmental benefit.'" *Ibid.* (quoting EPA's opinion). After resolving a factual dispute concerning the magnitude of the costs, the First Circuit stated that "[p]etitioners, wisely, do not argue that the cost may not be considered." *Ibid.* Rather, "[t]he legislative history clearly makes cost an acceptable consideration in determining whether the intake design 'reflect[s] the best technology available.'" *Ibid.* (quoting Staff of the Senate Comm. on Public Works, 93d Cong., 1st Sess., *A Legislative History of the Water Pollution Control Act Amendments of 1972*, at 264 (Comm. Print 1973)).

Seacoast does not present a square conflict for two reasons. First, it appears from the court of appeals' brief discussion that the permissibility of considering costs was not in dispute in that case. 597 F.2d at 311. Second, while the First Circuit clearly stated that EPA may consider costs, the court did not explicitly discuss the *extent* to which costs may be considered. See *ibid.*

Nonetheless, *Seacoast* upheld EPA's rejection of an alternative on the ground that its costs were wholly disproportionate to its benefits—a legal standard that cannot be squared with the court of appeals' decision below. Indeed, the court of appeals below faulted EPA for applying a standard that, in the court of appeals' view, resembled one that looks to whether costs are “wholly out of proportion” to benefits. 07-589 Pet. App. 19a (quoting *EPA v. National Crushed Stone Ass'n*, 449 U.S. 64, 71 n.10 (1980)). In this case, therefore, the court of appeals rejected essentially the same legal standard that EPA had applied in *Seacoast*.

c. While the court of appeals' decision is undoubtedly important, and it unjustifiably constrains EPA's consideration of costs and benefits, it is unclear how significant the decision ultimately will prove to be. The court of appeals did not determine that EPA had considered costs in an unlawful fashion; instead, it found EPA's rationale “unclear” and remanded for further proceedings. 07-589 Pet. App. 26a. In doing so, the court of appeals noted that EPA could permissibly consider the energy impacts, countervailing environmental effects, and cost-effectiveness of alternatives. *Id.* at 24a n.12.

Nonetheless, it is clear that the court of appeals' decision will be disruptive. The Phase II rule affects approximately 550 facilities that account for approximately 40% of our Nation's energy production. See 69 Fed. Reg. at 41,608; Office of Water, EPA, *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule* A3-6, A3-13 (2004). Because those facilities' NPDES permits expire every five years, see 33 U.S.C. 1342(a)(3) and (b)(1)(B), many affected permitting decisions may be made before EPA com-

pletes the remand proceedings and an appellate court reviews those proceedings. Until EPA completes the remand proceedings, permitting authorities will issue permits on a case-by-case basis based on their best professional judgment. At least in the Second Circuit, however, they will no longer be able to consider the relationship between costs and benefits. That will mark a sharp break from past practice, because EPA and other permitting authorities have understood for at least 30 years that cost-benefit analysis is an appropriate consideration. See, e.g., *Central Hudson*, Op. EPA Gen. Counsel, NPDES No. 63, 1977 WL 28250, at *8 (explaining that it would be “unreasonable to interpret Section 316(b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained”) (citation omitted). The short-term consequences of the resulting uncertainty will be magnified by the fact that existing facilities have made enormous investments based, in part, on their reliance on past permitting decisions made under a different legal standard.

As EPA determined in the Phase II rulemaking, any requirement that existing facilities must adopt closed-cycle cooling technology would have dramatic effects. Nationwide, the cost would exceed \$3.5 billion annually, and possibly be much more than that. 69 Fed. Reg. at 41,605. Such controls would also impose a significant “energy penalty” by reducing the amount of energy created by affected plants while forcing others to remain idle during extensive retrofits (or to close their doors forever). See *ibid.* At this time, however, any assessment of the likely consequences is speculative, as explained above.

It is also unclear whether the court of appeals’ decision will have practical consequences beyond the

Phase II rule. EPA's Phase III rule expressly relies on cost-benefit considerations. *E.g.*, 71 Fed. Reg. at 35,015. Challenges to that rule are currently pending before the Fifth Circuit, and the United States is defending EPA's consideration of the relationship between costs and benefits in that rulemaking. See U.S. Br. at 54-73, *Conoco-Phillips, supra* (No. 06-60662). If the Fifth Circuit were to agree with the Second Circuit, the practical importance of the question would be magnified. If the Fifth Circuit were to disagree with the Second Circuit, the resulting circuit conflict would also weigh in favor of this Court's review. At this juncture, however, it is not clear that the consequences of the court of appeals' ruling below are sufficiently important to satisfy this Court's certiorari criteria.

2. In addition to challenging the court of appeals' erroneous cost-benefit holding, petitioners argue (*e.g.*, 07-589 Pet. 28-31) that the court of appeals erred in holding that the CWA precludes the use of restoration measures to minimize the adverse environmental impacts of cooling water intake structures. While the court of appeals' holding on that issue is wrong as well, it does not warrant further review at this time.

As discussed, the statute requires that "the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." 33 U.S.C. 1326(b). EPA's regulations permit the use of restoration measures (instead of, for example, improvements to the equipment used in intake structures) when, among other things, "the impacts to fish and shellfish * * * within the watershed [through the use of restoration measures] will be comparable to those which would result" from other compliance methods. 40 C.F.R. 125.84(d)(1). That

is a reasonable interpretation of the statutory text, because it provides a common sense way of minimizing environmental impacts in a cost-effective manner.

The court of appeals construed Section 316(b) to require that BTA be implemented through “the location, design, construction, or capacity of cooling water intake structures.” 07-589 Pet. App. 44a. Restoration measures are, however, part of the overall “design” of such structures. In any event, the statute requires only that the design “reflect[]” BTA, and the design does so when restoration measures help the facility achieve that level of protection. The court of appeals also thought that “minimizing adverse environmental impact” under the statute unambiguously requires minimizing that impact before any consequence occurs, as opposed to using restoration measures to replace, for example, entrained organisms with new organisms. 07-589 Pet. App. 44a. But nothing in the statute requires minimization to take either form, so long as the end result is comparable. Thus, if the Court were to grant the petitions, the government would support the position of the petitioners on this issue as well.

The restoration-measures question does not, however, warrant further review at this time. No other court of appeals has held that restoration measures are a permissible means of compliance under Section 316(b). While the court of appeals’ decision has the potential to be disruptive and to require inefficient and wasteful results at existing facilities that had intended to rely upon restoration measures, the issue is not so exceptionally important as to warrant review in the absence of a circuit conflict. The court of appeals’ holding is limited to Section 316(b), and does not extend to the use of restoration measures under other provisions of the CWA or

other environmental statutes. Moreover, the permissibility of restoration measures lacks the far-reaching significance of the more fundamental cost-benefit question described above, because such measures are simply one means of complying with BTA once BTA is established.

3. Alone among the petitioners, Entergy also argues (07-588 Pet. 15-25) that the court of appeals erred in upholding EPA's determination that Section 316(b) applies to existing facilities. The court of appeals' holding on that point is correct and does not warrant further review.

a. As noted, Section 316(b) requires that "[a]ny standard established pursuant to section [301] of [the CWA] or section [306] of [the CWA] and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." 33 U.S.C. 1326(b). The opening phrase establishes the scope of Section 316(b)'s applicability—*i.e.*, standards developed pursuant to Sections 301 and 306 and applicable to point sources—while the closing phrase establishes its substantive requirement—*i.e.*, that the location, design, construction, and capacity of intake structures reflect BTA. Significantly, while Section 306 addresses only new sources, 33 U.S.C. 1316(b), Section 301 provides for limitations on existing sources, as Entergy concedes (07-588 Pet. 5). See 33 U.S.C. 1311(b). Thus, by mandating that "[a]ny standard established pursuant" to Sections 301 or 306 reflect BTA for intake structures, Section 316(b) unambiguously imposes its requirements on both new and existing facilities. 33 U.S.C. 1326(b) (emphasis added).

Entergy argues (07-588 Pet. 15-16) that Section 316(b) is limited to new sources because it imposes requirements on “the location, design, construction, and capacity of cooling water intake structures.” 33 U.S.C. 1326(b). As discussed, however, Section 316(b) separately defines its scope by stating that it applies to “[a]ny standard established pursuant to” Sections 301 and 306. *Ibid.*

Even if Section 316(b) does not unambiguously apply to existing facilities, EPA’s interpretation is certainly reasonable and entitled to deference. Applying Section 316(b) to existing facilities furthers the CWA’s general objective “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. 1251(a). It also fulfills Section 316(b)’s particular objective of minimizing adverse environmental impacts at facilities that are subject to Section 301 standards. Moreover, EPA has a longstanding and consistent practice of applying Section 316(b) to existing facilities, dating back to its 1977 regulations and a general counsel opinion that same year. See 71 Fed. Reg. at 35,011; *Central Hudson*, Op. EPA Gen. Counsel, NPDES No. 63, 1977 WL 28250, at *6.

b. Entergy nonetheless argues (07-588 Pet. 17-19) that its position is “confirmed by the absence of any CWA mechanism for imposing new requirements relating to the intake of water on existing facilities.” As the court of appeals determined, however, EPA may implement Section 316(b) through the NPDES permitting process. 07-589 Pet. App. 68a-70a.

As discussed, Section 316(b) requires that standards established under Sections 301 and 306 must comply with Section 316(b)’s requirements. Section 301 and 306 standards are, in turn, implemented through NPDES

permits. See 33 U.S.C. 1342(a)(1). Indeed, the Act authorizes EPA to “issue [an NPDES] permit for the discharge of any pollutant * * * upon condition that such discharge will meet * * * *all applicable requirements* under sections [301 and 306].” *Ibid.* (emphasis added). Because the Act ties Section 316(b)’s requirements to standards established under Section 301, and the Act further directs that NPDES permits contain all applicable Section 301 requirements, the Act “implicitly requires the Administrator to insure compliance with § 316(b) as one of the permit conditions.” *United States Steel Corp. v. Train*, 556 F.2d 822, 850 (7th Cir. 1977).

Entergy argues (07-588 Pet. 17-18) that Section 402(a)(1), 33 U.S.C. 1342(a)(1), which authorizes the issuance of NPDES permits, *requires* only that such permits mandate that the “discharge” of a pollutant comply with Section 301 requirements, whereas Section 316(b) governs the intake, as opposed to discharge, of water. But the intake and discharge of water are closely associated with one another, and there is no reason to read Section 402(a)(1) as *precluding* NPDES permits from including all Section 301 requirements. As the court of appeals observed, Entergy’s reading cannot be squared with Section 316(b)’s clear application to existing sources. 07-589 Pet. App. 69a-70a. At a bare minimum, EPA’s interpretation is reasonable.

c. There is no division among the circuits on the question presented here. Indeed, Entergy does not assert a circuit conflict on the question whether Section 316(b) applies to existing sources; instead, it asserts (07-588 Pet. 18-19) only a circuit conflict on the subsidiary question whether Section 316(b) may be enforced through NPDES permits. There is no such conflict. The District of Columbia Circuit’s decision in *NRDC v. Uni-*

ted States EPA, 859 F.2d 156 (1988) (cited at 07-588 Pet. 19) does not even involve Section 316(b); instead, it addresses the question whether EPA may include conditions in NPDES permits based on the requirements of an entirely different statute, the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.* See *NRDC*, 859 F.2d at 168-170. As the District of Columbia Circuit explained, NEPA—unlike Section 316(b)—is a “procedural” statute that “does not expand the agency’s substantive powers.” *Id.* at 169, 170.

Nor is there a conflict with *Virginia Electric & Power Co. v. EPA*, 566 F.2d 446 (4th Cir. 1977) (*VEPCO*) (cited at 07-588 Pet. 18-19). *VEPCO* did not involve NPDES permits. Instead, the “sole question” there was whether the district court or the court of appeals had original jurisdiction to review regulations implementing Section 316(b). *VEPCO*, 566 F.2d at 447. That question turned on “whether the regulations constitute ‘effluent limitation[s] or other limitation[s]’ within the meaning of [33 U.S.C. 1369(b)(1)(E)].” 566 F.2d at 449. It was undisputed that the regulations were not effluent limitations. *Ibid.* The court of appeals held that the regulations were other limitations for purposes of the jurisdictional provision, primarily because “§ 316(b) itself seems to indicate its limitations are to be adopted under §§ 301 and 306.” *Id.* at 450. Nothing in *VEPCO*’s analysis, much less its jurisdictional holding, conflicts with the court of appeals’ decision in this case; if anything, *VEPCO* supports the court of appeals’ determination that Section 316(b)’s requirements are requirements under Sections 301 and 306.

d. Entergy argues (07-588 Pet. 22-25) that the court of appeals’ decision implicates a circuit conflict on whether courts must defer to an agency’s reasonable inter-

pretation of its own statutory jurisdiction. That question is not properly presented here, for at least two reasons. First, it was not timely raised or considered below. Entergy raised that contention for the first time in its reply brief in the court of appeals, and therefore has forfeited it. See, e.g., *United States v. Gabriel*, 125 F.3d 89, 100 n.6 (2d Cir. 1997). Nor did the court of appeals address the question. Thus, the question is not properly presented here. See, e.g., *Travelers Cas. & Sur. Co. of Am. v. Pacific Gas & Elec. Co.*, 127 S. Ct. 1199, 1208 (2007).²

Moreover, the court of appeals had an even more fundamental reason for not addressing the question: the court held that Section 316(b) “plainly applies” “on its face * * * to existing facilities.” 07-589 Pet. App. 68a, 70a; see *id.* at 69a (emphasizing the “clear textual basis” for that conclusion). Because the court of appeals held that the statute is unambiguous, it had no occasion to analyze the deference that would be due to EPA’s reasonable construction of an ambiguous statute. To be sure, the court of appeals stated, apparently as an alternative holding, that “at the very least, the EPA permissibly interpreted the statute to cover existing facilities.” *Id.* at 65a; see *id.* at 68a. But the court’s analysis rested on the plain language of the statute, see *id.* at 67a-68a, and, as discussed above, the court concluded that the text is “clear” and “plain[.]” *Id.* at 69a, 70a. Thus, the court’s holding does not appear to rely on deference.

² In a string-cite for the general proposition that agencies’ interpretations must be reasonable, Entergy’s opening brief in the court of appeals included a parenthetical that said, “discretion inappropriate regarding matters of agency authority.” Entergy C.A. Br. 33. That brief statement in a parenthetical to a case cited for a different proposition did not adequately raise the issue.

Even if the basis for the court's holding were unclear, that lack of clarity would make this case a poor vehicle for considering the deference question.

In any event, under *Chevron*, EPA's reasonable interpretation of the statutes it administers is entitled to deference, even if those statutes are considered jurisdictional. Indeed, an agency's construction of statutory provisions it is charged with administering normally affects the scope of the agency's regulatory authority and responsibilities. As a result, Entergy's position would all but eviscerate *Chevron*. In *Chevron* itself, this Court deferred to EPA's interpretation of the Clean Air Act's statutory term "stationary source"—an interpretation that determined the scope of EPA's regulatory responsibilities and authority. See *Chevron*, 467 U.S. at 839-840. Entergy makes no attempt to explain how its position can be squared with *Chevron*, and it cannot. Indeed, just three months before this Court decided *Chevron*, it held that an agency was entitled to deference on the scope of its jurisdiction and authority. *NLRB v. City Disposal Sys., Inc.*, 465 U.S. 822, 830 n.7 (1984). Since then, this Court has never held otherwise.

Entergy argues (07-588 Pet. 24-25) that two courts of appeals have nonetheless held that an agency's view of its own jurisdiction is not entitled to deference. Those cases are distinguishable. *Holderfield v. MSPB*, 326 F.3d 1207, 1208 (Fed. Cir. 2003), involved the Merit Systems Protection Board's (MSPB's) interpretation of the statutes that, quite literally, determine the scope of its adjudicatory jurisdiction. *Holderfield* is distinguishable not only because it involves adjudicatory jurisdiction as opposed to regulatory authority, but also because the Federal Circuit reviews most of the MSPB's legal determinations *de novo*, not only its jurisdictional ones. See,

e.g., *King v. Department of the Navy*, 130 F.3d 1031, 1033 (Fed. Cir. 1997). Moreover, the Federal Circuit does defer to MSPB regulator (as opposed to adjudicatory) interpretations of its jurisdiction. See *Garcia v. DHS*, 437 F.3d 1322, 1338 (2006) (en banc).

Petitioner is correct (07-588 Pet. 24-25) that, in the context of a different statute, the Seventh Circuit has declined to defer to an agency's interpretation of the scope of its regulatory authority. *Northern Ill. Steel Supply Co. v. Secretary of Labor*, 294 F.3d 844, 846-847 (2002). That case did not, however, involve Section 316(b) (or the CWA more generally). In any event, as discussed above, this case does not properly present the question, and the Seventh Circuit's decision is clearly wrong.

e. Finally, Entergy's prediction (07-588 Pet. 20-21) that the court of appeals' decision will have calamitous consequences is premature and is not supported by the record. Indeed, Entergy points (*id.* at 20) only to the cost of retrofitting nuclear facilities—which comprise a small percentage of the relevant facilities—with closed-cycle cooling towers. As discussed, however, the court of appeals' decision does not necessarily require that result on remand. Thus, while Entergy's arguments underscore the importance of the cost-benefit issue, they do not justify further review of the court of appeals' holding that Section 316(b)'s requirements apply to both new and existing facilities.

CONCLUSION

Although the decision below is incorrect in important respects, and has great potential practical importance, and the government would support reversal in the event that certiorari were granted, the petitions for a writ of certiorari should be denied.

Respectfully submitted.

PAUL D. CLEMENT
Solicitor General

RONALD J. TENPAS
Assistant Attorney General

DAVID S. GUALTIERI
CYNTHIA J. MORRIS
JESSICA O'DONNELL
Attorneys

FEBRUARY 2008

Nos. 07-588, 07-589 and 07-597

In the Supreme Court of the United States

ENTERGY CORPORATION, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

PSEG FOSSIL LLC, ET AL., PETITIONERS

v.

RIVERKEEPER, INC., ET AL.

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

**BRIEF FOR THE FEDERAL PARTIES
AS RESPONDENTS SUPPORTING PETITIONERS**

GREGORY G. GARRE
*Acting Solicitor General
Counsel of Record*

RONALD J. TENPAS
Assistant Attorney General

EDWIN S. KNEEDLER
Deputy Solicitor General

DARYL JOSEFFER
*Assistant to the Solicitor
General*

PATRICIA K. HIRSCH
Acting General Counsel
RICHARD T. WITT
*Attorney
Environmental Protection
Agency
Washington, D.C. 20460*

DAVID S. GUALTIERI
CYNTHIA J. MORRIS
JESSICA O'DONNELL
*Attorneys
Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217*

QUESTION PRESENTED

Whether Section 316(b) of the Clean Water Act, 33 U.S.C. 1326(b), authorizes the Environmental Protection Agency to compare costs with benefits in determining the “best technology available for minimizing adverse environmental impact” at cooling water intake structures.

(I)

TABLE OF CONTENTS

	Page
Opinion below.....	1
Jurisdiction.....	2
Statutory and regulatory provisions involved.....	2
Statement.....	2
Summary of argument.....	10
Argument.....	13
The Environmental Protection Agency may consider costs in relation to benefits in determining the best technology available for minimizing adverse environmental impact under Section 316(b)	13
A. The statutory text does not unambiguously prohibit consideration of the relationship between costs and benefits.....	15
B. The statutory structure, context, and history confirm that EPA may consider the relationship between costs and benefits.....	18
1. Section 316(b) cross-references provisions that require consideration of costs, including comparison of costs and benefits.....	19
2. Congress conferred broad authority on EPA to determine how best to consider costs, benefits, and other relevant factors	22
C. The court of appeals usurped EPA's discretion by imposing extra-textual constraints on EPA's consideration of various factors	26
D. There is no basis for applying an artificial presumption against consideration of the relationship between costs and benefits.....	30
E. EPA's consideration of costs and benefits in the rulemaking at issue here fell well within its discretion.....	35

IV

Table of Contents—Continued:	Page
1. EPA based the national performance standards on its weighing of multiple relevant factors.....	35
2. EPA permissibly authorized site-specific determinations in circumstances where costs significantly exceed benefits.....	39
Conclusion.....	42
Appendix.....	1a

TABLE OF AUTHORITIES

Cases:

<i>American Iron & Steel Inst. v. EPA</i> , 526 F.2d 1027 (3d Cir. 1975), amended, 560 F.2d 589 (3d Cir. 1977)	26
<i>American Paper Inst. v. United States EPA</i> , 660 F.2d 954 (4th Cir. 1981)	20
<i>American Textile Mfrs. Inst. v. Donovan</i> , 452 U.S. 490 (1981)	31, 3 2
<i>Appalachian Power Co. v. Train</i> , 566 F.2d 451 (4th Cir. 1977)	4
<i>Barnhart v. Walton</i> , 535 U.S. 212 (2002)	27, 3 0
<i>BP Exploration & Oil, Inc. v. United States EPA</i> , 66 F.3d 784 (6th Cir. 1995)	16, 3 9
<i>Chemical Mfrs. Ass'n v. United States EPA</i> , 870 F.2d 177 (5th Cir. 1989), cert. denied, 495 U.S. 910 (1990) ..	25
<i>Chevron U.S.A. Inc. v. NRDC</i> , 467 U.S. 837 (1984)	10, 1 5 2 6 2 8 3 1 3 4
<i>Citizens Coal Council v. United States EPA</i> , 447 F.3d 879 (6th Cir. 2006)	16

V

Cases—Continued:	Page
<i>CPC Int'l, Inc. v. Train</i> , 540 F.2d 1329 (8th Cir. 1976), cert. denied, 430 U.S. 966 (1977)	26
<i>EPA v. National Crushed Stone Ass'n</i> , 449 U.S. 64 (1980)	20, 21 & 4
<i>Gregory v. Ashcroft</i> , 501 U.S. 452 (1991)	31
<i>Michigan v. United States EPA</i> , 213 F.3d 663 (D.C. Cir. 2000), cert. denied, 532 U.S. 903, and 532 U.S. 904 (2001)	32, 33
<i>Morton v. Ruiz</i> , 415 U.S. 199 (1974)	27
<i>NWF v. EPA</i> , 286 F.3d 554 (D.C. Cir. 2002)	39
<i>Public Serv. Co. of N.H. (Seabrook Station, Units 1 & 2), In re:</i> No. 76-7, 1977 WL 22370 (June 10, 1977) remanded on other grounds, 572 F.2d 872 (1st Cir. 1978)	5, 27
No. 76-7, 1978 WL 21140 (E.P.A. Aug. 4, 1978)	27
<i>Riverkeeper, Inc. v. United States EPA</i> , 358 F.3d 174 (2d Cir. 2004)	<i>passim</i>
<i>Seacoast Anti-Pollution League v. Costle</i> , 597 F.2d 306 (1st Cir. 1979)	27
<i>Sierra Club v. United States EPA</i> , 314 F.3d 735 (5th Cir. 2002)	32
<i>Spector v. Norwegian Cruise Line Ltd.</i> , 545 U.S. 119 (2005)	31
<i>Texas Oil & Gas Ass'n v. United States EPA</i> , 161 F.3d 923 (5th Cir. 1998)	39
<i>Weyerhaeuser Co. v. Costle</i> , 590 F.2d 1011 (D.C. Cir. 1978)	39

VI

Case—Continued:	Page
<i>Whitman v. American Trucking Ass'ns, Inc.</i> , 531 U.S. 457 (2001)	31, 3 2 3 3
Statutes and regulations:	
Clean Air Act, 42 U.S.C. 7401 <i>et seq.</i>	32
42 U.S.C. 7409(b)(1)	33
Clean Water Act, 33 U.S.C. 1251 <i>et seq.</i>	2
33 U.S.C. 1311(b)(1)(A) (§ 301(b)(1)(A))	3, 19, 2 5
33 U.S.C. 1311(b)(2)(A)	3, 20, 2 1 2 5
33 U.S.C. 1311(b)(2)(C)	20
33 U.S.C. 1311(b)(2)(D)	20
33 U.S.C. 1311(b)(2)(E)	3, 20, 2 4
33 U.S.C. 1311(b)(2)(F)	20
33 U.S.C. 1311(g)	21
33 U.S.C. 1314(a)(4)	20
33 U.S.C. 1314(b)(1)(B)	3, 4, 2 0 2 4 2 6
33 U.S.C. 1314(b)(2)(B)	4, 21, 2 4
33 U.S.C. 1314(b)(4)(B)	4, 20, 2 4
33 U.S.C. 1316(a)(1) (§ 306(a)(1))	4, 21
33 U.S.C. 1316(b)(1)(B) (§ 306(b)(1)(B))	4, 21, 2 4 2 6
33 U.S.C. 1326(b) (§ 316(b))	3, 10, 1 5, 1 6, 1 8 2 2
33 U.S.C. 1342	4
33 U.S.C. 1361(a)	26
33 U.S.C. 1362(13)	20
40 C.F.R.:	
Section 125.83	18
Section 125.90(a)	4
Section 125.94(a)(5)	7

VII

Regulations—Continued:	Page
Section 125.94(a)(5)(i)	40
Section 125.94(a)(5)(ii)	35, 39, 41
Section 125.94(b)	6, 36
Section 401.14	5
Miscellaneous:	
<i>American Heritage Dictionary</i> (4th ed. 2006)	16, 17
<i>Black's Law Dictionary</i> (8th ed. 2004)	17
<i>Central Hudson Gas & Elec. Corp., In re, Op. EPA</i> <i>Gen. Counsel</i> , NPDES No. 63, 1977 WL 28250 (July 29, 1977)	27
Hon. Stephen Breyer, <i>Breaking the Vicious Circle:</i> <i>Toward Effective Risk Regulations</i> (1994)	14, 18
Matthew D. Adler & Eric A. Posner, <i>Rethinking</i> <i>Cost-Benefit Analysis</i> , 109 Yale L.J. 165 (1999)	31
<i>Oxford English Dictionary</i> (2d ed. 1989)	16
<i>Random House Dictionary of the English Language</i> (2d ed. 1987)	17
118 Cong. Rec. 33,762 (1972)	23
41 Fed. Reg. (1976):	
p. 17, 38.7.....	4
p. 17, 38.8.....	41
51 Fed. Reg. 24,976 (1986)	25
66 Fed. Reg. 65,256 (2001)	5
66 Fed. Reg. 17,145.....	42
67 Fed. Reg. 17,145-17,146	41, 42
68 Fed. Reg. 13,541 (2003)	41, 42

VIII

Miscellaneous—Continued:	Page
69 Fed. Reg. (2004):	
p. 41, 57.6.....	6
71 Fed. Reg. 35,006 (2006)	6

In the Supreme Court of the United States

No. 07-588

ENTERGY CORPORATION, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 07-589

PSEG FOSSIL LLC, ET AL., PETITIONERS

v.

RIVERKEEPER, INC., ET AL.

No. 07-597

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

*ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT*

**BRIEF FOR THE FEDERAL PARTIES
AS RESPONDENTS SUPPORTING PETITIONERS**

OPINION BELOW

The opinion of the court of appeals (Pet. App. 1a-94a) is reported at 475 F.3d 83.¹

¹ Citations to the Pet. App. refer to the appendix filed in No. 07-588.

JURISDICTION

The judgment of the court of appeals was entered on January 25, 2007. A petition for rehearing was denied on July 5, 2007 (Pet. App. 95a-96a). On September 25, 2007, Justice Ginsburg extended the time within which to file the petitions for a writ of certiorari to and including November 2, 2007, and the petitions were filed on that date. The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTORY AND REGULATORY PROVISIONS INVOLVED

The pertinent statutory and regulatory provisions are set forth in an appendix to this brief. App., *infra*, 1a-24a.

STATEMENT

1. Steam electric power plants and other industrial and manufacturing facilities depend upon intake structures to withdraw water from the Nation's lakes, rivers, and other water bodies. The withdrawn water then absorbs heat from the steam used to generate electricity. Among the adverse environmental impacts associated with the use of intake structures are "impingement," which occurs when aquatic organisms are trapped against the structures by the force of inflowing water, and "entrainment," which occurs when smaller organisms are pulled into a facility's cooling system. Billions of aquatic organisms are impinged or entrained by intake structures annually. See Pet. App. 3a.

Section 316(b) of the Clean Water Act (CWA or Act), 33 U.S.C. 1251 *et seq.*, requires that "the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for mini-

mizing adverse environmental impact.” 33 U.S.C. 1326(b). That provision is unique among CWA provisions because it addresses the *intake* of water, in contrast to other provisions that regulate the *discharge* of pollutants into waters of the United States.

The CWA does not define the substantive standard specified in Section 316(b)—“best technology available for minimizing adverse environmental impact” (BTA). 33 U.S.C. 1326(b). Section 316(b) does, however, cross-reference Sections 301 and 306 of the CWA by specifying that standards established pursuant to those sections must require that intake structures reflect BTA, *ibid.*, and Sections 301 and 306, in turn, call for consideration of costs.

Section 301 requires the Environmental Protection Agency (EPA) to establish standards known as “effluent limitations” for *existing* point source discharges in two phases. In the first phase, applicable to all pollutants, EPA must establish effluent limitations based on the “best practicable control technology currently available” (BPT). 33 U.S.C. 1311(b)(1)(A). In establishing BPT, EPA must consider a number of specified factors, including “the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application,” as well as “such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(1)(B).

In the second phase, EPA must establish effluent limitations for conventional pollutants based on the “best conventional pollution control technology” (BCT), and for toxic pollutants based on the “best available technology economically achievable” (BAT). 33 U.S.C. 1311(b)(2)(A), (E). In determining BCT, EPA must consider, *inter alia*, “the relationship between the costs of

attaining a reduction in effluents and the effluent reduction benefits derived” and “such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(4)(B). In determining BAT, EPA must consider, *inter alia*, “the cost of achieving such effluent reduction” and “such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(2)(B).

Section 306 directs EPA to establish performance standards for *new* sources based on the “best available demonstrated control technology” (BADT). 33 U.S.C. 1316(a)(1). In establishing BADT, EPA “shall take into consideration the cost of achieving such effluent reduction, and any non-water quality, environmental impact and energy requirements.” 33 U.S.C. 1316(b)(1)(B).

The limitations and standards promulgated under Sections 301, 306, and 316(b) are implemented through National Pollutant Discharge Elimination System (NPDES) permits. Such permits are issued for terms of up to five years, either by States with approved NPDES programs or by EPA in States without such programs. See 33 U.S.C. 1342; 40 C.F.R. 125.90(a).

2. a. EPA first promulgated regulations implementing Section 316(b) in 1976. J.A. 38-49 (41 Fed. Reg. 17,387). In the preamble to those regulations, EPA stated that, while Section 316(b) does not “require” the agency to conduct a cost-benefit assessment, the agency would consider a technology’s “economic practicality” for individual facilities on a case-by-case basis. J.A. 42.

The Fourth Circuit remanded those regulations to EPA for procedural reasons. *Appalachian Power Co. v. Train*, 566 F.2d 451 (1977). When EPA subsequently withdrew the remanded regulations, it directed permitting authorities to use their best professional judgment to determine BTA for each facility on a case-by-case

basis. See 40 C.F.R. 401.14. In 1977, EPA distributed a draft guidance document that proposed a process for determining BTA on a facility-specific basis. See Pet. App. 160a-161a.

In 1977, EPA also issued a permitting decision and a General Counsel opinion explaining that it would not be “reasonable to interpret Section 316(b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained.” *In re Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 and 2)*, No. 76-7, 1977 WL 22370 (June 10, 1977), remanded on other grounds, 572 F.2d 872 (1st Cir. 1978); accord *In re Central Hudson Gas & Elec. Corp., Op. EPA Gen. Counsel*, NPDES No. 63, 1977 WL 28250, at *8 (July 29, 1977). Thus, the framework in existence for more than 30 years has provided for permitting authorities to consider the relationship between costs and benefits to at least that extent in determining each facility’s BTA on a case-by-case basis.

b. In 1995, EPA entered into a consent decree establishing deadlines for proposing and taking final action on regulations implementing Section 316(b). That consent decree was later amended to provide for three “phases” of rulemaking addressing different categories of facilities. See Pet. App. 6a.

EPA published a Phase I rule in 2001. 66 Fed. Reg. 65,256. That rule governs *new* facilities that meet certain threshold specifications, and it provides that closed-cycle recirculating cooling systems (which reuse withdrawn water) reflect BTA for such facilities. *Id.* at 65,270-65,271. The Second Circuit largely upheld the Phase I rule. *Riverkeeper, Inc. v. United States EPA*, 358 F.3d 174, 181 (2004) (*Riverkeeper I*). The Phase II rule, which is at issue here, establishes requirements for

intake structures at *existing* large power plants that meet certain criteria. Pet. App. 122a-593a (69 Fed. Reg. 41,576 (2004)). The Phase III Rule establishes requirements for new offshore and coastal oil and gas facilities, existing manufacturing and industrial facilities, and smaller power plants. 71 Fed. Reg. 35,006 (2006). That rule is under review in the Fifth Circuit, which stayed its proceedings pending this Court's disposition of this case. *ConocoPhillips Co. v. EPA*, No. 06-60662 (filed July 14, 2006).

c. In the Phase II rule at issue here, EPA selected a combination of technologies to reflect BTA for existing large power plants. Pet. App. 224a-225a. Those technologies include, among others, relocation of intakes, fine mesh passive screens, double-entry single-exit traveling screens, velocity caps, larger intakes to decrease intake velocity, and barrier nets. See *id.* at 228a. EPA selected those technologies based on the various options' "overall efficacy, availability, economic practicability, including economic impact and the relationship of costs with benefits, and non-water quality environmental impacts, including energy impacts." *Id.* at 253a.

Based on the chosen technologies, EPA established national performance standards for reducing impingement mortality (by 80%-95%) and entrainment (by 60%-90%). 40 C.F.R. 125.94(b). EPA did not, however, require the use of any specific technology, because it wanted to "provide[] a high degree of flexibility for existing facilities to select the most effective and efficient approach and technologies for minimizing adverse environmental impact associated with their cooling water intake structures." Pet. App. 226a.

EPA considered treating closed-cycle recirculating cooling systems, which it had determined to be BTA for

(new) Phase I facilities, as BTA for (existing) Phase II facilities. See Pet. App. 254a-261a. EPA rejected that alternative, however, because of its “generally high costs (due to conversions), the fact that other technologies approach the performance of this option, concerns for energy impacts due to retrofitting existing facilities, and other considerations.” *Id.* at 255a. EPA explained that: the cost of closed-cycle recirculating cooling towers for existing Phase II facilities was many times higher than for new Phase I facilities because of the need to retrofit facilities that had not been designed to use closed-cycle towers; such cooling towers were less energy efficient than EPA’s chosen alternatives; and, “[a]lthough not identical, the ranges of impingement and entrainment reduction are similar” under EPA’s chosen option and the closed-cycle alternative. *Id.* at 255a-261a; see *id.* at 368a-369a.

The rule also allows a facility to request a variance resulting in a site-specific BTA determination if the facility demonstrates that its cost of complying with the national performance standards is significantly greater than the environmental benefits. 40 C.F.R. 125.94(a)(5). EPA provided that flexibility because its “comparison of national costs to national benefits” underlying the nationwide performance standards “may not be applicable to a specific site due to variations in (1) the performance of intake technologies and (2) characteristics of the waterbody in which the intake(s) are sited.” Pet. App. 250a.

3. After several parties petitioned for review, the petitions were consolidated in the Second Circuit. See Pet. App. 1a-94a. The court of appeals recognized that “Section 316(b) does not itself set forth * * * the specific factors that the EPA must consider in determining

BTA.” *Id.* at 20a. Because Section 316(b) cross-references Sections 301 and 306, however, the court looked to the factors that EPA must consider in implementing various standards under those sections. *Id.* at 20a-23a. While those standards treat costs in different ways, and two of them specifically require a comparison of costs and benefits, the court concluded that Congress had manifested a clear intent in those other provisions “to move cost considerations under the CWA from a cost-benefit analysis to a cost-effectiveness one.” *Id.* at 22a. The court further asserted that, if Congress had intended to permit a comparison of costs and benefits under Section 316(b), it would have said so expressly in the statute. *Id.* at 25a.

The court of appeals then held that EPA may not engage in cost-benefit analysis, but instead “may permissibly consider cost in two ways: (1) to determine what technology can be ‘reasonably borne’ by the industry and (2) to engage in cost-effectiveness analysis.” Pet. App. 26a. After consulting the definition of “cost-effectiveness” found in an Office of Management and Budget (OMB) circular that does not purport to implement the CWA, the court explained that, in its view, permissible cost-effectiveness review is limited to choosing “a less expensive technology that achieves essentially the same results” as the best technology that industry can reasonably bear. *Id.* at 23a n.10, 26a-28a. “For example, assuming the EPA has determined that power plants governed by the Phase II Rule can reasonably bear the price of technology that saves between 100-105 fish, the EPA, given a choice between a technology that costs \$100 to save 99-101 fish and one that costs \$150 to save 100-103 fish * * *, could appropriately choose the cheaper technology on cost-effectiveness grounds.” *Id.*

at 26a-27a. Thus, the court concluded, “the specified level of benefits * * * a narrowly bounded range, within which the EPA may permissibly choose between two (or more) technologies that produce essentially the same benefits but have markedly different costs.” *Id.* at 28a.

The court of appeals then remanded to EPA because, in the court’s view, “it is unclear whether the Agency improperly weighed the benefits and the costs of requiring closed-cycle cooling.” Pet. App. 32a-33a. Based on its cost-benefit holding, the court also invalidated a provision of the Phase II rule that authorizes site-specific variances for facilities where costs of compliance with the nationwide performance standards would significantly exceed the environmental benefits. *Id.* at 56a-60a. On the same basis, the court rejected an industry petitioner’s contention that the rule’s costs impermissibly exceed its benefits. *Id.* at 27a n.13. While the court upheld EPA’s authority to express BTA as a range, it also concluded that the agency must “require facilities to choose the technology that permits them to achieve as much reduction of adverse environmental impacts as is technologically possible,” and the court directed EPA to reconsider its chosen ranges under that standard on remand. *Id.* at 43a-44a.

The court of appeals addressed a number of other challenges to the rule as well. For example, the court held that EPA had not provided sufficient public notice concerning a provision that authorizes the operator of a facility to apply for a site-specific BTA determination in circumstances where the facility’s costs of complying with the nationwide performance standards would be significantly greater than the costs considered by EPA in establishing those standards. Pet. App. 51a-56a. The

court also upheld EPA's determinations that Section 316(b) applies to existing as well as new facilities, *id.* at 72a-77a, and that the loss of aquatic organisms is an adverse environmental impact within the meaning of Section 316(b), *id.* at 78a-80a.

SUMMARY OF ARGUMENT

The agency's gap-filling interpretation of Section 316(b) of the CWA is entitled to deference under *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837 (1984). The CWA is full of requirements governing the *discharge* of pollutants, and in many instances Congress specified, in detail, the factors that EPA must consider in implementing those requirements. In Section 316(b), in contrast, Congress included a single terse sentence concerning the *intake* of water, and assigned broad authority to the agency to determine how best to address that distinct issue. The court of appeals erred by attempting to micro-manage the agency's exercise of its broad statutory discretion.

A. The CWA requires that "the location, design, construction, and capacity of cooling water intake structures reflect the *best technology available* for *minimizing* adverse environmental impact." 33 U.S.C. 1326(b) (emphases added). Nothing in that statutory standard speaks directly to the question whether, or to what extent, EPA should consider the relationship between costs and benefits. The "best" way for pursuing a goal is not always the one that most single-mindedly pursues that goal at all costs. Instead, the best way often depends on other considerations.

Moreover, whether a technology is "available" under Section 316(b) depends on its cost, as even the court of appeals acknowledged. And the term "minimizing" is

commonly used to refer to reductions that fall short of the greatest amount possible. Thus, the statutory standard does not unambiguously require EPA to set BTA without regard to the relationship between costs and benefits. Nor does it specify the extent to which EPA may consider that relationship. Instead, the Act leaves that determination to EPA—the agency with expertise in making such determinations.

B. Section 316(b) cross-references Sections 301 and 306 of the Act by specifying that standards established pursuant to those sections must require that intake structures reflect BTA. Those sections contain several “best” standards that govern the discharge of pollutants. Significantly, the Act expressly *requires* EPA to consider costs in promulgating all of those standards, and specifically requires EPA to consider the relationship between costs and benefits in promulgating two of them. Thus, while Section 316(b) sets forth a different standard than the “best” standards of Sections 301 and 306, and does not require EPA to follow those provisions as a model for determining BTA, the cross-reference to those provisions nonetheless suggests that EPA’s consideration of the relationship between costs and benefits is at least reasonable.

Congress had good reason to confer greater discretion on the agency under Section 316(b) than under Sections 301 and 306. Section 316(b) is unique among the CWA’s provisions in that it governs the *intake* of water, as opposed to the *discharge* of pollutants. Moreover, “Section 316(b) is something of an afterthought, having been added by the conference committee without substantive comment.” *Riverkeeper I*, 358 F.3d at 186 n.12. Especially compared to the far more detailed provisions governing *discharge* limitations under Sections 301 and

306, Section 316(b)'s single sentence vests broad gap-filling authority in EPA to address the unique issue of *intake* restrictions.

C. The court of appeals' error is confirmed not only by the text, structure, and history of the statute, but also by the extent to which the court attempted to micro-manage EPA's consideration of various factors. The court held that EPA could undertake what the court called "cost-effectiveness" but not "cost-benefit" analysis—terms that appear nowhere in Section 316(b). While the court ultimately acknowledged that the agency could consider the relationship between costs and benefits, it held that the agency could do so only within an unspecified but "narrowly bounded" range. Pet. App. 28a. And the court held that, while cost-benefit analysis is impermissible, consideration of energy efficiency is permissible. Nothing in Section 316(b)'s single, terse sentence unambiguously draws those distinctions; instead, the court effectively imposed its own preferences on the agency, in contravention of *Chevron*.

D. The court of appeals also turned normal rules of statutory construction and agency deference on their head by asserting that agencies *may* consider the relationship between costs and benefits only when Congress has *clearly* authorized them to do so. Under *Chevron*, if Congress has not directly spoken to the precise question at issue, the agency has leeway to adopt its own construction of the statute as long as it is reasonable. Thus, Congress's silence or ambiguity on an issue confers discretion, not limitation. In any event, the traditional interpretive principles discussed above make clear that, in this instance, Congress intended to confer especially *broad* discretionary authority on EPA.

E. The agency's measured consideration of costs and benefits in this rulemaking fell well within its discretion. Indeed, EPA's selection of a nationwide performance standard based on multiple relevant factors may be permissible even under the cramped standard created by the court of appeals. The agency found that the environmental respondents' preferred technology had similar benefits, but far higher costs, than the performance standards selected by EPA, and that other factors such as energy efficiency and air quality also weighed in favor of EPA's chosen performance standards. The agency further authorized a site-specific determination of BTA if a facility's costs of compliance with the nationwide performance standards would be significantly greater than the benefits. Especially considering that BTA was historically determined on a facility-specific, best-professional-judgment basis, and the site-specific provision looks only to whether costs *significantly* exceed benefits, that provision falls comfortably within EPA's discretion.

ARGUMENT

THE ENVIRONMENTAL PROTECTION AGENCY MAY CONSIDER COSTS IN RELATION TO BENEFITS IN DETERMINING THE BEST TECHNOLOGY AVAILABLE FOR MINIMIZING ADVERSE ENVIRONMENTAL IMPACT UNDER SECTION 316(b)

Consideration of the costs of a certain action in relation to its benefits is common in government regulation, as it is in human experience generally. In everyday life, people routinely weigh costs against benefits in deciding whether to do something. If a bigger car would be safer than a smaller and less expensive one, a person must decide whether the extra expense (of both the larger car

and the subsequent gasoline purchases) is justified by the safety and other benefits. Similarly, if a better home fire alarm would cost more than a traditional one, or if expensive new insulation would be more fire-resistant than the insulation already installed in a house, the homeowner must decide whether the added safety benefit justifies the added cost. See Hon. Stephen G. Breyer, *Breaking the Vicious Circle: Toward Effective Risk Regulation* 16 (1994) (*Vicious Circle*).

In numerous contexts, federal agencies engage in conceptually similar analyses by deciding whether a regulatory alternative's costs are justified by its benefits. To be sure, agencies do not always make cost-benefit analyses. And when they do such analyses, agencies consider costs and benefits in different ways, and give differing weight to costs and benefits. Sometimes costs and benefits are measured in monetary terms; other times they are compared qualitatively, as people do in everyday life. Sometimes an agency looks only at whether the benefits exceed the costs; other times (as here) the agency considers the cost-benefit relationship in conjunction with other factors. In the latter circumstance, after considering all relevant factors, an agency might decide to issue a regulation even though its costs are very high in proportion to its benefits. Or the agency might decide that the costs are too disproportionate to benefits to justify the proposal. But however an agency approaches the issue, consideration of costs and benefits is a common feature of agency decision-making, including in the environmental area.

The question presented here is not whether or to what extent cost-benefit analysis is a good thing. Instead, the question is whether Section 316(b) permits EPA to consider the relationship between costs and ben-

efits in determining the best technology available for minimizing the adverse environmental impact of cooling water intake structures. That question must be answered by applying the familiar two-step framework established by *Chevron*: first, “whether Congress has directly spoken to the precise question at issue”; and, if not, “whether the agency’s answer is based on a permissible construction of the statute.” 467 U.S. at 842-843. As explained below, Section 316(b) does not directly answer the question presented (or preclude EPA from considering the relationship between costs and benefits), and EPA’s determination that it is appropriate to consider both costs and benefits in this context is an entirely permissible construction of the statute.

A. The Statutory Text Does Not Unambiguously Prohibit Consideration Of The Relationship Between Costs And Benefits

Section 316(b) requires that “the location, design, construction, and capacity of cooling water intake structures reflect the *best technology available for minimizing* adverse environmental impact.” 33 U.S.C. 1326(b) (emphases added). That statutory standard does not directly speak to the question presented. Nor, to be clear, does it unambiguously preclude EPA from considering the relationship between costs and benefits—especially considering that Congress did not define any of the key statutory terms or otherwise specify the factors the agency may or must consider. See Pet. App. 20a (“Section 316(b) does not itself set forth * * * the specific factors that the EPA must consider in determining BTA.”).

The first key statutory term is “best.” Best is a relative term capable of different meanings, and the “best”

way of pursuing a goal is not always the one that most single-mindedly achieves that goal at all costs. For example, the best way to drive home might not be the quickest and most direct route on a map. That route might be more dangerous than others, more prone to traffic jams, or more expensive (e.g., if it required payment of a toll). Similarly, the best way to win a game does not typically entail violating the rules, even if cheating would improve one's odds of winning, because other values matter as well. And the best way to catch fish is not necessarily the one that nets the most fish in the shortest period of time; to many, fly fishing has offsetting advantages.

Moreover, Section 316(b) refers to the “best technology available *for* minimizing adverse environmental impact,” not the technology that is best *at* minimizing such impact. 33 U.S.C. 1326(b) (emphasis added). The word “for” is sometimes “[u]sed to indicate appropriateness or suitability.” *American Heritage Dictionary* 686 (4th ed. 2006) (*American Heritage*); accord VI *Oxford English Dictionary* 26 (2d ed. 1989). Thus, while an individual may be regarded as the best person *at* his trade, he might not be the best person *for* a particular job, depending on a range of considerations. As the Sixth Circuit explained in construing another “best” standard in the CWA, the “requirement that EPA choose the ‘best’ technology does not mean that the chosen technology must be the best pollutant removal.” *BP Exploration & Oil, Inc. v. United States EPA*, 66 F.3d 784, 796 (1995); accord *Citizens Coal Council v. United States EPA*, 447 F.3d 879, 903 (6th Cir. 2006) (en banc).

The statute also refers to the “best technology *available for minimizing* adverse environmental impact.” 33 U.S.C. 1326(b) (emphases added). As the court of

appeals recognized, a technology's availability under Section 316(b) depends on its cost. Pet. App. 24a; see also *id.* at 349a-350a. The court erred, however, in holding that the statute unambiguously constrains EPA's consideration of costs to whether a technology's cost could be "reasonably borne by the industry." *Id.* at 24a. Even considering the term "available" in isolation, many people would not think of a luxury item as being "available" simply because its purchase would not bankrupt them. See *Random House Dictionary of the English Language* 142 (2d ed. 1987) (defining "available" to mean, among other things, "readily obtainable; accessible"); *American Heritage* 123 ("[p]resent and ready for use; at hand; accessible"). Indeed, assuming that the court of appeals did not intend to require a just-shy-of-bankruptcy standard, but instead intended the "reasonably borne" standard to be a more flexible one, that only underscores that Section 316(b)'s use of the term "available" does not unambiguously preclude consideration of whether an option's costs are warranted in light of other considerations.

The statutory term "minimizing" is also significant. To be sure, that term most formally refers to "reduc[ing] to the smallest possible amount, extent, size, or degree." *American Heritage* 1119. But in common usage, the terms "minimal" and "minimize" often refer to a lesser degree of reduction. See, e.g., *ibid.*; *Black's Law Dictionary* 1016 (8th ed. 2004) ("smallest *acceptable* or possible quantity") (emphasis added). For example, if a person said that he was trying to minimize the risk of being hit by a car while crossing a street, he presumably would not mean that he was staying inside his house at all times. Instead, the person would presumably mean that he was trying to reduce that risk consis-

tent with other practical considerations, including economic ones such as the need to travel to work, and thus, for example, was looking both ways before crossing a street. Accordingly, EPA determined that the appropriate “degree” of minimization may depend in part on “the relationship between costs and benefits.” Pet. App. 355a; see 40 C.F.R. 125.83 (“Minimize means to reduce to the smallest amount, extent, or degree *reasonably* possible.”) (emphasis added).

The upshot is that the “best technology available for minimizing adverse environmental impact,” 33 U.S.C. 1326(b), is not unambiguously the one that achieves the greatest degree of environmental protection without regard to other considerations, including the relationship between costs and benefits. If it did, EPA might have to require a facility to devote billions of dollars to saving a relatively small number of organisms, even if those billions might be far better spent in other ways, including on more beneficial environmental objectives. Cf. *Vicious Circle* 18-19. Nothing in the statutory text compels that result.

B. The Statutory Structure, Context, And History Confirm That EPA May Consider The Relationship Between Costs And Benefits

Section 316(b) does not define its key terms or set forth the factors that EPA must or may consider in determining BTA. It does, however, cross-reference Sections 301 and 306 of the CWA by specifying that standards established pursuant to those sections, which govern the discharge of pollutants, must require that intake structures reflect BTA. 33 U.S.C. 1326(b). The only direct consequence of the cross-reference is a procedural one: when any standard under Section 301 or 306

is made applicable to a point source with an intake structure, such as in an NPDES permit, the standard must also reflect BTA limits. Cf. Pet. App. 5a. Nonetheless, the cross-reference to Sections 301 and 306 is informative, especially because those sections include numerous other “best” standards. See *id.* at 6a, 20a; *Riverkeeper I*, 358 F.3d at 186; Pet. App. 154a, 349a-350a.

As discussed below, Congress specified the factors that EPA must consider in promulgating each of the various “best” standards found in Sections 301 and 306. In doing so, it expressly *required* consideration of costs for all of those standards, and specifically *required* consideration of the relationship between costs and benefits for two of them. The express statutory mandate to consider costs under the cross-referenced sections strongly supports EPA’s interpretation that consideration of the relationship between costs and benefits is *permissible* under Section 316(b). Moreover, Congress’s decision to specify the factors that EPA must consider under the “best” standards for the discharge of pollutants under Sections 301 and 306, but not under the different “best” standard for the intake of water under Section 316(b), confirms that Congress intended to grant broad discretion to the agency to interpret and implement Section 316(b)’s terse and unique provision.

1. Section 316(b) cross-references provisions that require consideration of costs, including comparison of costs and benefits

The cross-referenced Section 301 directs EPA to promulgate “effluent limitations for point sources * * * which shall require the application of the best practicable control technology currently available” (BPT). 33 U.S.C. 1311(b)(1)(A). Congress specified that, in es-

establishing BPT, EPA *must* consider, among other factors, “the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application.” 33 U.S.C. 1314(b)(1)(B). Determination of BPT, therefore, requires “weighing benefits and costs.” *EPA v. National Crushed Stone Ass’n*, 449 U.S. 64, 76 (1980).

While the BPT standards were to provide the first effluent limitations for all pollutants, Congress directed EPA to promulgate more stringent effluent limitations thereafter. *National Crushed Stone*, 449 U.S. at 69-70 & n.9. For conventional pollutants, Congress required EPA to promulgate effluent limitations based on the “best conventional pollution control technology” (BCT). 33 U.S.C. 1311(b)(2)(E); see 33 U.S.C. 1314(a)(4) (granting EPA authority to identify conventional pollutants); see also *National Crushed Stone*, 449 U.S. at 70 n.9. In determining BCT, EPA must consider, among other factors, “the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived.” 33 U.S.C. 1314(b)(4)(B). Thus, Congress again expressly required consideration of the relationship between costs and benefits. See, e.g., *American Paper Inst. v. United States EPA*, 660 F.2d 954, 961 (4th Cir. 1981).

For toxic and some other non-conventional pollutants, Congress required limitations that “require application of the best available technology economically achievable * * * which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants” (BAT), unless EPA determines that the complete elimination of pollutant discharges is “technologically and economically achievable” for a category or class of point sources. 33 U.S.C.

1311(b)(2)(A), (C), (D), (F); see 33 U.S.C. 1362(13) (defining the term “toxic pollutant”); see also *National Crushed Stone*, 449 U.S. at 70-71. In the latter situation, EPA is to require the elimination of such discharges. 33 U.S.C. 1311(b)(2)(A). Congress specified that, in promulgating BAT standards, EPA “shall take into account” a number of factors, including “the cost of achieving such effluent reduction * * * and such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(2)(B). Congress further authorized EPA to promulgate standards less stringent than BAT, but at least as stringent as BPT, for certain non-conventional pollutants. See 33 U.S.C. 1311(g).

While the various Section 301 standards govern *existing* sources, Section 306 requires EPA to promulgate standards of performance for *new* sources. 33 U.S.C. 1316(b)(1)(B). Those standards must “reflect the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants” (BADT). 33 U.S.C. 1316(a)(1). In establishing BADT, EPA “shall take into consideration the cost of achieving such effluent reduction, and any non-water quality, environmental impact and energy requirements.” 33 U.S.C. 1316(b)(1)(B) (emphasis added).

The bottom line is that each of the cross-referenced provisions *requires* consideration of costs, and two of them (BPT and BCT) specifically require comparison of costs and benefits. Section 316(b)’s cross-reference to those provisions therefore reinforces the conclusion that it does not unambiguously *preclude* EPA from consider-

ing the relationship between costs and benefits. Pet. App. 345a-350a. Indeed, considering that standards established pursuant to Sections 301 and 306 must require that intake structures reflect BTA, and that all of the relevant standards and limitations are set forth in the same NPDES permit for a facility, see 33 U.S.C. 1326(b), it would make little sense for EPA to have less flexibility in determining BTA than in determining the other standards.

2. Congress conferred broad authority on EPA to determine how best to consider costs, benefits, and other relevant factors

a. Especially measured against the detailed provisions governing the factors that EPA must consider in promulgating effluent limitations under Sections 301 and 306, the single sentence set forth in Section 316(b) confers broad authority on the agency to determine both which factors to consider and how to consider them. Section 316(b) sets forth a different standard (BTA) than the other sections. And nothing in the Act evinces an intent to require EPA to treat BTA like—or differently than—any one of the Section 301 or 306 effluent limitations. Nor does Section 316(b) evince any intent to require EPA to consider only the factors listed in one or another of those sections, or to consider any given factor in precisely the same manner that it considers that factor in determining another of the “best” standards. Instead, as the Second Circuit itself observed in *Riverkeeper I*, the fact that Congress set forth lists of factors that EPA must consider in implementing the various “best” standards of Sections 301 and 306, but conspicuously did not do so in Section 316(b), confirms the

breadth of the discretion left to EPA. 358 F.3d at 187; see Pet. App. 156a-157a.

b. Congress had good reason to confer greater discretion on EPA under Section 316(b) than under Sections 301 and 306. Section 316(b) is unique among the CWA's provisions in that it governs the *intake* of water, as opposed to the *discharge* of pollutants. Because “intake structures are in a class by themselves,” *Riverkeeper I*, 358 F.3d at 193, there is no reason to presume that the same standards that govern the discharge of pollutants should also govern the intake of water. Indeed, as the court of appeals observed, “Section 316(b) is something of an afterthought, having been added by the conference committee without substantive comment.” *Id.* at 186 n.12. Thus, as the Second Circuit explained in *Riverkeeper I*, the “brevity” of Section 316(b), combined with the “paucity of legislative history, when measured against the volumes of drafts and speeches devoted to other aspects of the 1972 amendments,” suggests that Congress “desire[d] to delegate significant rulemaking authority to the Agency.” *Ibid.*

Moreover, what little legislative history there is supports EPA's interpretation. A legislator explained that “[t]he reference here to ‘best technology available’ is intended to be interpreted to mean the best technology available commercially *at an economically practicable cost.*” 118 Cong. Rec. 33,762 (1972) (statement of Rep. Clausen) (emphasis added). Even the court of appeals acknowledged that “practicable” connotes cost-benefit considerations. Pet. App. 30a-31a.

c. The court of appeals relied on what it believed to be a clear intent on the part of Congress to abolish cost-benefit analysis after 1989 because, in the court's view, EPA may not undertake such analysis in determining

either BAT or BADT, and BAT replaced BPT in 1989. Pet. App. 20a-23a. As discussed above, Congress set forth lists of factors that EPA “shall” consider in determining BAT and BADT. 33 U.S.C. 1314(b)(1)(B); 33 U.S.C. 1316(b)(1)(B); see pp. 19-21, *supra*. Without explanation, the court of appeals treated those lists as setting forth the only factors that EPA “could consider.” Pet. App. 21a. That interpretation is contradicted by the statute itself with respect to BAT, because Section 304(b)(2)(B), after identifying certain specific factors that EPA “shall” take into account, also authorizes consideration of “such other factors as the Administrator deems appropriate.” 33 U.S.C. 1314(b)(2)(B).

Assuming for the sake of argument that cost-benefit analysis is not one of the other factors that EPA may consider in determining BAT, however, the court of appeals’ conclusion does not follow. Cf. *National Crushed Stone*, 449 U.S. at 71. Even if no Section 301 or 306 effluent limitations could be based in part on cost-benefit analysis after 1989, that would manifest only an intent to preclude cost-benefit analysis for *discharge* limitations under Sections 301 and 306; it would not unambiguously reflect an intent to preclude cost-benefit analysis for *intake* limitations under the different Section 316(b) standard.

Moreover, the court of appeals erred in assuming that all Section 301 effluent limitations after 1989 are BAT limitations. As discussed above, the BAT standard is inapplicable to conventional pollutants, which are generally governed instead by the BCT standard. 33 U.S.C. 1311(b)(2)(E). In determining BCT, EPA must consider “the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived.” 33 U.S.C. 1314(b)(4)(B).

If the incremental costs of more stringent technologies are not reasonable in light of their incremental benefits, EPA will set BCT effluent limitations at the BPT level. 51 Fed. Reg. 24,976 (1986). Thus, since 1989, EPA has continued to adopt BPT standards for some conventional pollutants. See *Chemical Mfrs. Ass'n v. United States EPA*, 870 F.2d 177, 206-207 (5th Cir.), decision clarified on reh'g by 885 F.2d 253 (1989), cert. denied, 495 U.S. 910 (1990). And Congress authorized EPA to set effluent limitations for certain non-conventional pollutants at a level less stringent than BAT but at least as stringent as BPT. 33 U.S.C. 1311(g). The court of appeals therefore erred in assuming that the BAT standard governs all Section 301 effluent limitations after 1989.

Nor is there any basis for the court of appeals' conclusion that the Act unambiguously requires EPA to treat BTA as being more equivalent to BAT and BADT than to BPT. The court of appeals stated that BTA is "linguistically similar" to BAT but not BPT. Pet. App. 23a. But BTA, BPT, and BAT all include the terms "best," "technology," and "available," and neither BPT nor BAT goes on to consider minimizing adverse environmental impacts, as BTA does. See 33 U.S.C. 1311(b)(1)(A) and (2)(A). The court of appeals suggested that the BPT standard is inapposite because the word "practicable" appears in BPT but not BTA. Pet. App. 31a. One could argue with equal force, however, that BAT is inapposite because the phrase "economically achievable" appears in BAT but not BTA. Accordingly, the court of appeals erred in concluding that the Act unambiguously treats BTA like BAT (but not BPT) for this purpose. The only sensible conclusion one can draw from the differences in jargon used by Congress is that all of the different "best" standards are indeed different

and susceptible to differing interpretations in their own right, such that none of the others controls the meaning of BTA.

The BADT standards promulgated under Section 306 provide a poor analogy for an additional reason: they govern only *new* sources, while Section 316(b) governs both new and existing sources. See 33 U.S.C. 1316(b)(1)(B). Congress generally imposes stricter requirements on new sources because it is generally more feasible and less expensive for technology to be installed in new sources when they are first being built than for existing facilities to be reconfigured to incorporate that technology. See, e.g., *CPC Int'l, Inc. v. Train*, 540 F.2d 1329, 1341 (8th Cir. 1976), cert. denied, 430 U.S. 966 (1977); *American Iron & Steel Inst. v. EPA*, 526 F.2d 1027, 1058 (3d Cir. 1975), amended, 560 F.2d 589 (1977). The applicability of Section 316(b)'s BTA standard to both new and existing sources demonstrates not only that the BADT analogy is inapposite, but also that flexibility is needed in the application of the BTA standard. Section 316(b)'s broader coverage also provides another basis for Congress's decision to confer greater discretion on EPA to implement Section 316(b) than to implement the Section 301 and 306 standards.

C. The Court Of Appeals Usurped EPA's Discretion By Imposing Extra-Textual Constraints On EPA's Consideration Of Various Factors

Because Section 316(b) does not "directly [speak] to the precise question at issue," *Chevron*, 467 U.S. at 842, and Congress granted EPA broad rulemaking authority to administer the Act, see 33 U.S.C. 1361(a), EPA's reasonable interpretation of the ambiguous statutory text is entitled to deference, *Chevron*, 467 U.S. at 843.

EPA's authority includes "the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress." *Ibid.* (quoting *Morton v. Ruiz*, 415 U.S. 199, 231 (1974)).

EPA has long construed Section 316(b) to permit consideration of the relationship between costs and benefits. Cf. *Barnhart v. Walton*, 535 U.S. 212, 219-220 (2002). As early as 1977, EPA issued a permitting decision and a General Counsel opinion that explained that, while Section 316(b) does not require a formal cost-benefit analysis, it would *not* be "reasonable to interpret Section 316(b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained." *In re Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 and 2)*, No. 76-7, 1977 WL 22370 (E.P.A. June 10, 1977), remanded on other grounds, 572 F.2d 872 (1st Cir. 1978); accord *In re Cent. Hudson Gas & Elec. Corp., Op. EPA Gen. Counsel*, NPDES No. 63, 1977 WL 28250, at *8 (E.P.A. July 29, 1977). Thus, the legal framework followed for more than 30 years has provided for EPA and state permitting authorities to consider the relationship between costs and benefits to at least that extent in making individual permitting decisions. See, e.g., *In re Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 and 2)*, No. 76-7, 1978 WL 21140 (E.P.A. Aug. 4, 1978) (finding that an alternative's costs would be wholly disproportionate to its benefits), *aff'd*, *Seacoast Anti-Pollution League v. Costle*, 597 F.2d 306, 311 (1st Cir. 1979) (upholding the agency's consideration of costs); C.A. App. 492 (EPA determination, as part of 1988 permitting decision, that closed-cycle cooling towers were not BTA for a facility because the costs would be "wholly disproportionate to the environmental benefit"); *id.* at 351 (EPA determination, as part of 1986 per-

mitting decision, that an alternative was not BTA because its costs were “wholly disproportionate to anticipated benefits”); J.A. 140 (describing “measures that have been required” by EPA when other technologies would have “wholly disproportionate” costs).

While the court of appeals recited deference principles, Pet. App. 16a-17a, the court sharply departed from those principles. The degree of that departure is underscored not only by the implausibility of the court’s contention that Section 316(b) unambiguously precludes consideration of the relationship between costs and benefits, but also by the extent to which the court attempted to micro-manage EPA’s decisionmaking by establishing rules that cannot be found anywhere in the Act. The court concluded, for example, that EPA may consider costs as part of “cost-effectiveness” but not “cost-benefit” analysis—terms that appear nowhere in Section 316(b). See *id.* at 24a, 26a. After consulting the definition of “cost-effectiveness” found in an OMB circular that does not purport to interpret Section 316(b), the court proclaimed that EPA could adopt a significantly cheaper technology that would save 99-101 fish instead of 100-103 fish. *Id.* at 22a-23a & n.10, 27a. While it is not clear what result the court of appeals would reach if five or ten additional fish were potentially affected instead of one or two, the point for present purposes is that the court of appeals’ approach contravenes the principles of *Chevron* by usurping the agency’s role of construing and filling in gaps in an ambiguous statute. As this Court has made clear, “a court may not substitute its own construction of a statutory provision for a reasonable interpretation made by the administrator of an agency.” *Chevron*, 467 U.S. at 844.

Indeed, by permitting the agency to weigh costs against at least one or two fish, the court of appeals essentially permitted EPA to consider the relationship between costs and benefits, but only in the most extreme cases. Even on its own terms, therefore, the court of appeals' decision lacks a principled grounding in the statutory text, because nothing in the Act unambiguously permits such consideration but limits it in the manner the court of appeals imposed.

Moreover, the court of appeals agreed to let EPA consider other practical factors, such as energy efficiency and countervailing environmental effects. Pet. App. 26a-27a n.12. While those factors are important, the lines drawn by the court of appeals are by no means required by the Act. The statutory standard makes no more reference to a technology's energy efficiency than to the relationship between costs and benefits. Indeed, energy efficiency could be viewed as a cost issue, because a power plant's less efficient operation due to the use of new technology increases the cost of producing the same amount of energy. Yet the court of appeals permitted EPA to weigh energy efficiency but not costs against benefits.

The court of appeals also was of the view that BTA must be "technology-driven," and that a standard selected based in part on cost-effectiveness analysis (or energy efficiency) is technology-driven, while a standard based in part on cost-benefit analysis is not. Pet. App. 24a. There is no statutory basis for those distinctions. Once one recognizes (as the court of appeals did) that EPA has discretion to consider factors other than technology, the Act provides no basis for the court of appeals' picking and choosing among such factors, especially among factors that EPA is expressly required to

consider under one or more of the cross-referenced standards in Sections 301 and 306. That is especially true with respect to cost-benefit analysis. Section 316(b) does not require the use of technology for technology's sake. Instead, it expressly looks to benefits by requiring the best technology available for *minimizing adverse environmental impact*. *Id.* at 157a, 249a-250a. And, as discussed above, the BTA standard and all of the cross-referenced provisions in Sections 301 and 306 authorize consideration of costs. See pp. 15-21, *supra*. As long as EPA is considering both costs and benefits, nothing in the Act prohibits the agency from considering the relationship between the two.

D. There Is No Basis For Applying An Artificial Presumption Against Consideration Of The Relationship Between Costs And Benefits

The court of appeals turned normal rules of statutory construction and *Chevron* deference on their head by reasoning that, if Congress had intended to permit cost-benefit analysis, it would have clearly said so. See Pet. App. 25a. There is no logical or precedential basis for such a presumption against cost-benefit analysis. But even if there were, it would not apply in the context of this case, where Congress intended to confer broad authority on the agency and expressly cross-referenced sections that require cost-benefit analysis.

a. Congress's *silence* on whether an agency may consider the relationship between costs and benefits provides no basis for inferring an unambiguous legislative prohibition against such consideration. "[S]ilence, after all, normally creates ambiguity. It does not resolve it." *Barnhart*, 535 U.S. at 218. And in *Chevron*, this Court admonished that, "if a statute is silent * * *

with respect to the specific issue, the question for the Court is whether the agency's answer is based on a permissible construction of the statute." 467 U.S. at 843.

On unusual occasions, this Court has erected a plain statement rule in order to avoid constitutional difficulties, e.g., *Gregory v. Ashcroft*, 501 U.S. 452, 460-461, 464 (1991), or because of the unlikelihood that Congress would have intended a result, e.g., *Spector v. Norwegian Cruise Line Ltd.*, 545 U.S. 119, 131-132 (2005). But there is nothing inherently suspect about weighing costs and benefits. Numerous environmental and other statutes require or permit such analysis. See, e.g., Matthew D. Adler & Eric A. Posner, *Rethinking Cost-Benefit Analysis*, 109 Yale L.J. 165, 167 (1999). And in everyday life, people routinely determine whether an item is worth its cost. See pp. 13-14, *supra*. Thus, "other things being equal, [the Court] should read silences or ambiguities in the language of regulatory statutes as permitting, not forbidding, this type of rational regulation." *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 490 (2001) (Breyer, J., concurring in part and in the judgment).

The court of appeals erred in reading *American Textile Manufacturers Institute v. Donovan*, 452 U.S. 490, 510 (1981), as erecting a presumption against consideration of the relationship between costs and benefits. See Pet. App. 24a-25a. *Donovan* upheld the Occupational Safety and Health Administration's determination that it was not *required* to undertake cost-benefit analysis under a different statute. *Donovan*, 452 U.S. at 506, 541. Moreover, *Donovan* predated *Chevron*. Thus, while *Donovan* stated that, "[w]hen Congress has intended that an agency engage in cost-benefit analysis, it has clearly indicated such intent on the face of the stat-

ute,” *id.* at 510-511, the *Donovan* Court did not have occasion to address the question whether silence unambiguously *precludes* consideration of costs and benefits. Indeed, the dissenting opinion in *Donovan* construed the Court’s opinion as “suggest[ing] * * * that the Act *permits* the Secretary to undertake [a cost-benefit] analysis if he so chooses.” *Id.* at 544 (Rehnquist, J., dissenting).

More recent court of appeals decisions applying *Chevron* principles of statutory construction have construed congressional silence as permitting cost-benefit analysis. See, e.g., *Sierra Club v. United States EPA*, 314 F.3d 735, 744 (5th Cir. 2002); *Michigan v. United States EPA*, 213 F.3d 663, 678-679 (D.C. Cir. 2000) (citing cases), cert. denied, 532 U.S. 903, and 532 U.S. 904 (2001). The District of Columbia Circuit, for example, has explained that “[i]t is only where there is clear congressional intent to preclude consideration of cost that we find agencies barred from considering costs.” *Michigan*, 213 F.3d at 678 (internal quotation marks and citation omitted). The court of appeals erred by relying on a contrary presumption.

Riverkeeper’s reliance (Br. in Opp. 25-26) on *Whitman* is also misplaced. In that case, the Court agreed with EPA that the Clean Air Act (CAA), 42 U.S.C. 7401 *et seq.*, unambiguously precludes consideration of costs in setting National Ambient Air Quality Standards (NAAQS). 531 U.S. at 464-465. The Court stated that, because NAAQS are “the engine that drives” much of the CAA, EPA could consider costs only if Congress had provided a clear textual commitment of such authority to the agency. *Id.* at 467-468. The Court then agreed with EPA that the text of the CAA—which requires EPA to set NAAQS at levels “requisite to protect the

public health” with “an adequate margin of safety,” 42 U.S.C. 7409(b)(1)—“unambiguously bars cost considerations from the NAAQS-setting process” when that provision is “interpreted in its statutory and historical context and with appreciation for its importance to the CAA as a whole.” 531 U.S. at 471.

Whitman is inapposite for a number of reasons. While that case applied a presumption against *any consideration of costs* in setting NAAQS, the court of appeals here held that EPA *may* consider costs in determining BTA. See Pet. App. 26a. The question here is not (as it was in *Whitman*) whether EPA may consider costs at all in setting the relevant standards, but whether the agency’s consideration of costs may take the form of cost-benefit analysis. A presumption against any consideration of costs provides little if any support for the court of appeals’ decision permitting the agency to consider costs but greatly circumscribing its manner of doing so, which is presumably why the court of appeals itself did not rely on *Whitman*.

In addition, the *Whitman* Court repeatedly emphasized that its holding turned on the NAAQS’ centrality to the CAA. See 531 U.S. at 468, 469 n.1, 471. Thus, the Court did not disapprove the District of Columbia Circuit’s cases holding that EPA may generally consider costs in the absence of an express directive to the contrary. Instead, the *Whitman* Court emphasized that “[n]one of the sections of the CAA in which the District of Columbia Circuit has found authority for the EPA to consider costs shares [Section] 109(b)(1)’s prominence in the overall statutory scheme.” *Id.* at 469 n.1 (citing, e.g., *Michigan*, 213 F.3d at 678-679). As explained above, Section 316(b)’s single sentence concerning the *intake* of water is by no means the centerpiece of the CWA.

Rather, it is “something of an afterthought, having been added by the conference committee without substantive comment,” *Riverkeeper I*, 358 F.3d at 186 n.12, that addresses a unique issue separate and apart from the CWA’s normal focus on the *discharge* of pollutants into waters of the United States. See p. 23, *supra*. Thus, there is no basis for applying a presumption against weighing of costs and benefits in this case.

b. Even if some presumption applied here, it would be overcome by the statutory text, context, and legislative history discussed above. The text of Section 316(b)’s BTA standard, combined with its cross-reference to Sections 301 and 306, provides a strong textual basis for concluding that cost-benefit analysis is permissible. Moreover, the terseness of the relevant statutory text, coupled with the circumstances of its enactment, make clear that Congress intended to confer especially broad authority on EPA to address the unique problems associated with intake of water by cooling towers. See pp. 22-23, *supra*. Thus, as the Second Circuit observed in *Riverkeeper I*, “[t]o the extent [Section 316(b)] is silent on issues to which other sections speak, [a court should] hesitate to draw the negative inference that the brevity of section 316(b) reflects an intention to limit the EPA’s authority rather than a desire to delegate significant rulemaking authority to the Agency.” 358 F.3d at 186 n.12. That understates the matter because such “hesitat[ion]” is, of course, compelled by *Chevron*. See 467 U.S. at 842-843.

E. EPA's Consideration Of Costs And Benefits In The Rulemaking At Issue Here Fell Well Within Its Discretion

In the rulemaking here, EPA explained that “the relationship of costs to environmental benefits is an important” consideration, because “EPA has long recognized that there should be some reasonable relationship between the cost of cooling water intake structure control technology and the environmental benefits associated with its use.” Pet. App. 253a. EPA also made clear, however, that the relationship between costs and benefits was not, by itself, determinative. Instead, selecting BTA “encompasses consideration of effectiveness, costs, non-water quality environmental impacts, feasibility issues and a host of other considerations.” *Id.* at 219a.

EPA then considered costs along with other factors in selecting national BTA performance standards. See Pet. App. 255a-261a, 368a-369a. In addition, EPA authorized individual facilities to seek site-specific BTA determinations if, on a facility-specific basis, the costs of compliance with the national standard would be significantly greater than the benefits. 40 C.F.R. 125.94(a)(5)(ii). In each instance, EPA’s consideration of costs and benefits was reasonable and fell comfortably within its statutory authority.

1. EPA based the national performance standards on its weighing of multiple relevant factors

a. EPA determined BTA after analyzing the various options’ “overall efficacy, availability, economic practicability, including economic impact and the relationship of costs with benefits, and non-water quality environmental impacts, including energy impacts.” Pet. App. 253a.

EPA ultimately selected a combination of technologies to reflect BTA for existing large power plants. *Id.* at 224a-229a. Based on those technologies, EPA then established national performance standards for reducing impingement mortality (by 80%-95%) and entrainment (by 60%-90%), but did not require the use of any specific technology to achieve those standards. See 40 C.F.R. 125.94(b); Pet. App. 226a-227a.

EPA rejected closed-cycle cooling technology as BTA “based on its generally high costs (due to conversions), the fact that other technologies approach the performance of this option, concerns for energy impacts due to retrofiting existing facilities, and other considerations.” Pet App. 255a. EPA had selected closed-cycle cooling technology as BTA for *new* facilities in the Phase I rule-making, but the agency determined that “retrofit[ting] existing systems is not the most cost-effective approach and at many existing facilities, retrofits may be impossible or not economically practicable.” *Ibid.* The agency explained that the cost of closed-cycle recirculating cooling towers for Phase II facilities was many times higher than for Phase I facilities—at least \$130-\$200 million per tower, and probably more than that, with additional annual operating costs of up to \$20 million per facility, compared to annual costs as low as \$170,000 for new facilities. *Id.* at 255a-256a.

In addition to considering costs, EPA stressed that mandatory closed-cycle cooling technology would impose an “energy penalty” because existing fossil-fuel power plants that installed that technology would produce between 2.4% and 4% less electricity while consuming the same amount of coal. Construction of 20 additional plants could be required to make up for the lost produc-

tion, thereby increasing both financial costs and air pollution. Pet. App. 257a-258a.

Finally, EPA compared the effectiveness of closed-cycle cooling technology with the option that it ultimately selected, and determined that, “[a]lthough not identical, the ranges of impingement and entrainment reduction are similar under both options.” Pet. App. 260a. After “consider[ing] this similarity in efficacy,” along with the other factors noted above, EPA determined that “the total capital cost investment and associated economic impact is simply too high * * * for EPA to be able to justify selecting cooling towers” as BTA. *Id.* at 261a; see *id.* at 260a, 368a-369a.

b. EPA’s decisionmaking is fully consistent with its authority to consider costs and benefits under Section 316(b). As explained above, Section 316(b) permits EPA to consider the relationship between costs and benefits. Moreover, the agency’s analysis ultimately turned on the fact that its chosen option produces similar results to closed-cycle cooling technology at much lower cost and with less harm to the Nation’s energy supply and air quality. See Pet. App. 260a-261a, 368a-369a.

Thus, the agency’s analysis may be permissible even under the cramped standard fashioned by the court of appeals. The court of appeals held that EPA may undertake what the court referred to as “cost-effectiveness” analysis by “choos[ing] [a] cheaper technology” even if that technology is somewhat less effective than a significantly more costly technology. Pet. App. 27a. The court also acknowledged that EPA may consider “energy efficiency or environmental impact.” *Id.* at 26a n.12. As discussed above, EPA undertook that type of analysis. While it is not clear whether the court of appeals would conclude that EPA had considered cost-effectiveness

only within a sufficiently “narrowly bounded range,” *id.* at 28a, or whether the court of appeals would ultimately agree with EPA’s balancing of the various other relevant factors, those matters fall well within EPA’s discretion, not the court of appeals’. Cf. *id.* at 32a-37a (remanding for EPA to provide a further explanation of the basis for its decision).²

Indeed, *Riverkeeper I* strongly suggested as much. In the Phase I Rule, EPA rejected a technology, known as dry cooling, that “dramatically reduc[ed] impingement and entrainment” by “virtually eliminat[ing] the need for cooling water.” *Riverkeeper I*, 358 F.3d at 194. EPA determined that, among other things, “dry cooling costs more than ten times as much per year as closed-cycle wet cooling, but it is estimated to reduce water intake by only an additional 5 percent relative to once-through cooling.” *Id.* at 194 (footnotes omitted). EPA also considered a variety of other factors, including energy consumption and air emissions. *Id.* at 195. Recognizing that EPA’s weighing of relevant factors falls within the agency’s “considerable discretion,” the court noted that it was “not well equipped * * * to meaningfully weigh a 95 percent reduction in entrainment against .027 percent of new generating capacity, 300 pounds of mercury, and \$443 million dollars.” *Id.* at 196.

² The court of appeals’ definition of the term “cost-effective” sows confusion because it differs from EPA’s use of that term. The court defined cost-effectiveness to refer to the least expensive method of achieving a narrowly bounded level of benefit. See Pet. App. 23a, 28a. In the rulemaking below, however, EPA’s cost-effectiveness analysis compared the *incremental* cost of a technology to its *incremental* benefits. Thus, while EPA explained that its decision was based in part on cost-effectiveness considerations, the agency also made clear that its cost-effectiveness analysis looked to the relationship between costs and benefits. See, e.g., *id.* at 260a-261a.

In reviewing EPA's determination of BAT and BADT limitations under Sections 301 and 306, other courts of appeals have likewise observed that, because "Congress did not mandate any particular structure or weight for the many [relevant] factors," *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1045 (D.C. Cir. 1978), EPA has "considerable discretion in evaluating the relevant factors and determining the weight to be accorded to each." *Texas Oil & Gas Ass'n v. United States EPA*, 161 F.3d 923, 928 (5th Cir. 1998); see *NWF v. EPA*, 286 F.3d 554, 570 (D.C. Cir. 2002); *BP Exploration*, 66 F.3d at 796.³

2. EPA permissibly authorized site-specific determinations in circumstances where costs significantly exceed benefits

In addition to establishing nationwide performance standards, EPA authorized the operator of an individual facility to apply for a site-specific determination of BTA if the facility's costs of complying with the national performance standards "would be significantly greater than the benefits." 40 C.F.R. 125.94(a)(5)(ii). If the operator makes that showing with "reliable, scientifically valid" data, "[t]he [agency] must establish site-specific alternative requirements * * * that achieve an efficacy that, in the judgment of the [agency], is as close as practicable to the applicable performance standards * * * without resulting in costs that are significantly greater

³ The court of appeals upheld EPA's authority to express BTA as a range, but remanded EPA's chosen ranges based on its view that Section 316(b) requires "as much reduction of adverse environmental impacts as is technologically possible." Pet. App. 43a. Because that holding is based on the court's erroneous construction of the Act, it should be reversed as well.

than the benefits at [the] facility.” *Ibid.*; see Pet. App. 222a-224a.⁴

That provision, which is consistent with the historic practice of determining BTA on a facility-specific, best-professional-judgment basis, recognizes that site-specific differences among facilities might warrant different results. The agency explained that its “comparison of national costs to national benefits may not be applicable to a specific site due to variations in (1) the performance of intake technologies and (2) characteristics of the waterbody in which the intake(s) are sited.” Pet. App. 250a. “For example, there may be some facilities where the absolute numbers of fish and shellfish impinged and entrained is so minimal that the cost to achieve the required percentage reductions would be significantly greater than the benefits of achieving the required reductions at that particular site.” *Ibid.*; see *id.* at 355a-356a.

The court of appeals invalidated that provision based on its view that cost-benefit analysis is impermissible. Pet. App. 56a-60a. As explained above, that was error. The court underscored its error by taking particular exception to EPA’s determination that a cost-benefit variance might be appropriate if very few aquatic organisms were subject to impingement or entrainment in a particular waterbody, such that there would be little benefit in that waterbody from the use of more costly

⁴ EPA also authorized an application for a site-specific determination of BTA if a particular facility’s compliance costs “would be significantly greater than the costs considered by the Administrator * * * in establishing the applicable performance standards.” 40 C.F.R. 125.94(a)(5)(i). The court of appeals remanded that provision for procedural reasons that are distinct from the question presented here. Pet. App. 49a-56a.

technology. See *id.* at 58a-60a. The court determined that EPA may not consider water quality, and thus may not consider whether or to what extent a technology would have greater environmental benefits than a less expensive alternative. See *ibid.* As discussed above, however, Section 316(b) requires BTA for “minimizing adverse environmental impact,” and thus makes the environmental benefit to be achieved an important consideration. See pp. 29-30, *supra*. Especially considering that EPA authorized a site-specific BTA only when the costs of complying with the nationwide performance standards would be “significantly greater” than the benefits, and that the agency nonetheless required a site-specific BTA to “achieve an efficacy that * * * is as close as practicable to the applicable performance standards” consistent with the significantly-greater test, 40 C.F.R. 125.94(a)(5)(ii), EPA did not exceed its broad discretion under Section 316(b).⁵

⁵ In the context of facility-specific BTA determinations, EPA’s long-standing view has been that it would be unreasonable to select as BTA a technology whose costs are wholly disproportionate to its benefits. See pp. 27-28, *supra*. For purposes of the site-specific variance provision, EPA used a less stringent “significantly greater than” test in this rulemaking. 40 C.F.R. 125.94(a)(5)(ii). EPA’s legal interpretations have been consistent because the agency has not taken the position that the “wholly disproportionate” standard is the *only* permissible way to consider the relationship between costs and benefits; instead, EPA has opined that it would be unreasonable to ignore a disproportionality of that degree. See p. 27, *supra*. In addition, permit writers considered the “wholly disproportionate” test in conjunction with other factors as part of an overall best-professional-judgment determination. Whether to permit a variance from the new nationwide performance standards presents a different question, and EPA has long stressed the need for flexibility in determining BTA for any particular facility. *E.g.*, Pet. App. 250a-251a; J.A. 42-45. The need for flexibility is particularly great for existing (Phase II) facilities, because owners of newer facilities have far

CONCLUSION

The judgment of the court of appeals should be reversed with respect to the performance standards and the site-specific cost-benefit provision and the case remanded.

Respectfully submitted.

	GREGORY G. GARRE <i>Acting Solicitor General</i>
	RONALD J. TENPAS <i>Assistant Attorney General</i>
	EDWIN S. KNEEDLER <i>Deputy Solicitor General</i>
PATRICIA K. HIRSCH <i>Acting General Counsel</i>	DARYL JOSEFFER <i>Assistant to the Solicitor General</i>
RICHARD T. WITT <i>Attorney Environmental Protection Agency Washington, D.C. 20460</i>	DAVID S. GUALTIERI CYNTHIA J. MORRIS JESSICA O'DONNELL <i>Attorneys</i>

JULY 2008

more flexibility in building new technology into the initial design. J.A. 309; 68 Fed. Reg. 13,541 (2003); 67 Fed. Reg. 17,145 (2002). In addition, EPA determined that the more flexible “significantly greater than” standard was needed in this context to avoid unwarranted energy impacts, because the Phase II rule affects approximately 55% of the Nation’s electric-generating capacity. 68 Fed. Reg. at 13,541; 67 Fed. Reg. at 17,145-17,146; J.A. 309. In any event, the court of appeals’ decision does not rest on the difference between the “wholly disproportionate” and “significantly greater than” standards; instead, the court erroneously insisted on its own, distinct “cost effectiveness” test. See Pet. App. 26a; cf. *id.* at 55a-56a n.25 (noting the court’s “discomfort” with the “significantly greater than” test).

APPENDIX

1. 33 U.S.C. 1311 provides in pertinent part:

Effluent limitations

(a) Illegality of pollutant discharges except in compliance with law

Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.

(b) Timetable for achievement of objectives

In order to carry out the objective of this chapter there shall be achieved—

(1)(A) not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 1314(b) of this title, or (ii) in the case of a discharge into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, which shall require compliance with any applicable pretreatment requirements and any requirements under section 1317 of this title; and

(B) for publicly owned treatment works in existence on July 1, 1977, or approved pursuant to section 1283 of this title prior to June 30, 1974 (for which construction must be completed within four years of approval), effluent limitations based upon secondary treatment as defined by the Administrator pursuant to section 1314(d)(1) of this title; or,

(1a)

2a

(C) not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

(2)(A) for pollutants identified in subparagraphs (C), (D), and (F) of this paragraph, effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him (including information developed pursuant to section 1325 of this title), that such elimination is technologically and economically achievable for a category or class of point sources as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, or (ii) in the case of the introduction of a pollutant into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, shall require compliance with any applicable pretreatment re-

3a

quirements and any other requirement under section 1317 of this title;

(B) Repealed. Pub. L. 97-117, § 21(b), Dec. 29, 1981, 95 Stat. 1632.

(C) with respect to all toxic pollutants referred to in table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and Transportation of the House of Representatives compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989;

(D) for all toxic pollutants listed under paragraph (1) of subsection (a) of section 1317 of this title which are not referred to in subparagraph (C) of this paragraph compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989;

(E) as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989, compliance with effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which in the case of pollutants identified pursuant to section 1314(a)(4) of this title shall require application of the best conventional pollutant control

4a

technology as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(4) of this title; and

(F) for all pollutants (other than those subject to subparagraphs (C), (D), or (E) of this paragraph) compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than 3 years after the date such limitations are established, and in no case later than March 31, 1989.

(3)(A) for effluent limitations under paragraph (1)(A)(i) of this subsection promulgated after January 1, 1982, and requiring a level of control substantially greater or based on fundamentally different control technology than under permits for an industrial category issued before such date, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989; and

(B) for any effluent limitation in accordance with paragraph (1)(A)(i), (2)(A)(i), or (2)(E) of this subsection established only on the basis of section 1342(a)(1) of this title in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established, and in no case later than March 31, 1989.

(c) Modification of timetable

The Administrator may modify the requirements of subsection (b)(2)(A) of this section with respect to any

5a

point source for which a permit application is filed after July 1, 1977, upon a showing by the owner or operator of such point source satisfactory to the Administrator that such modified requirements (1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants.

(d) Review and revision of effluent limitations

Any effluent limitation required by paragraph (2) of subsection (b) of this section shall be reviewed at least every five years and, if appropriate, revised pursuant to the procedure established under such paragraph.

(e) All point discharge source application of effluent limitations

Effluent limitations established pursuant to this section or section 1312 of this title shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this chapter.

(f) Illegality of discharge of radiological, chemical, or biological warfare agents, high-level radioactive waste, or medical waste

Notwithstanding any other provisions of this chapter it shall be unlawful to discharge any radiological, chemical, or biological warfare agent, any high-level radioactive waste, or any medical waste, into the navigable waters.

6a

(g) Modifications for certain nonconventional pollutants**(1) General authority**

The Administrator, with the concurrence of the State, may modify the requirements of subsection (b)(2)(A) of this section with respect to the discharge from any point source of ammonia, chlorine, color, iron, and total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by subsection (b)(2)(F) of this section) and any other pollutant which the Administrator lists under paragraph (4) of this subsection.

(2) Requirements for granting modifications

A modification under this subsection shall be granted only upon a showing by the owner or operator of a point source satisfactory to the Administrator that—

(A) such modified requirements will result at a minimum in compliance with the requirements of subsection (b)(1)(A) or (C) of this section, whichever is applicable;

(B) such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(C) such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not

7a

result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

(3) Limitation on authority to apply for subsection (c) modification

If an owner or operator of a point source applies for a modification under this subsection with respect to the discharge of any pollutant, such owner or operator shall be eligible to apply for modification under subsection (c) of this section with respect to such pollutant only during the same time period as he is eligible to apply for a modification under this subsection.

(4) Procedures for listing additional pollutants

(A) General authority

Upon petition of any person, the Administrator may add any pollutant to the list of pollutants for which modification under this section is authorized (except for pollutants identified pursuant to section 1314(a)(4) of this title, toxic pollutants subject to section 1317(a) of this title, and the thermal component of discharges) in accordance with the provisions of this paragraph.

8a

(B) Requirements for listing**(i) Sufficient information**

The person petitioning for listing of an additional pollutant under this subsection shall submit to the Administrator sufficient information to make the determinations required by this subparagraph.

(ii) Toxic criteria determination

The Administrator shall determine whether or not the pollutant meets the criteria for listing as a toxic pollutant under section 1317(a) of this title.

(iii) Listing as toxic pollutant

If the Administrator determines that the pollutant meets the criteria for listing as a toxic pollutant under section 1317(a) of this title, the Administrator shall list the pollutant as a toxic pollutant under section 1317(a) of this title.

(iv) Nonconventional criteria determination

If the Administrator determines that the pollutant does not meet the criteria for listing as a toxic pollutant under such section and determines that adequate test methods and sufficient data are available to make the determinations required by paragraph (2) of this subsection with respect to the pollutant, the Administrator shall add the pollutant to the list of pollutants specified in paragraph (1) of this subsection for which modifications are authorized under this subsection.

9a

(C) Requirements for filing of petitions

A petition for listing of a pollutant under this paragraph—

(i) must be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under Section 1314 of this title;

(ii) may be filed before promulgation of such guideline; and

(iii) may be filed with an application for a modification under paragraph (1) with respect to the discharge of such pollutant.

(D) Deadline for approval of petition

A decision to add a pollutant to the list of pollutants for which modifications under this subsection are authorized must be made within 270 days after the date of promulgation of an applicable effluent guideline under section 1314 of this title.

(E) Burden of proof

The burden of proof for making the determinations under subparagraph (B) shall be on the petitioner.

(5) Removal of pollutants

The Administrator may remove any pollutant from the list of pollutants for which modifications are authorized under this subsection if the Administrator determines that adequate test methods and sufficient data are no longer available for determining whether

10a

or not modifications may be granted with respect to such pollutant under paragraph (2) of this subsection.

* * * * *

2. 33 U.S.C. 1314 provides in pertinent part:

Information and guidelines

(a) Criteria development and publication

* * * * *

(4) The Administrator shall, within 90 days after December 27, 1977, and from time to time thereafter, publish and revise as appropriate information identifying conventional pollutants, including but not limited to, pollutants classified as biological oxygen demanding, suspended solids, fecal coliform, and pH. The thermal component of any discharge shall not be identified as a conventional pollutant under this paragraph.

* * * * *

(b) Effluent limitation guidelines

For the purpose of adopting or revising effluent limitations under this chapter the Administrator shall, after consultation with appropriate Federal and State agencies and other interested persons, publish within one year of October 18, 1972, regulations, providing guidelines for effluent limitations, and, at least annually thereafter, revise, if appropriate, such regulations. Such regulations shall—

(1)(A) identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best practicable control technology currently available

11a

for classes and categories of point sources (other than publicly owned treatment works); and

(B) specify factors to be taken into account in determining the control measures and practices to be applicable to point sources (other than publicly owned treatment works) within such categories or classes. Factors relating to the assessment of best practicable control technology currently available to comply with subsection (b)(1) of section 1311 of this title shall include consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, and shall also take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate;

(2)(A) identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods, and other alternatives for classes and categories of point sources (other than publicly owned treatment works); and

(B) specify factors to be taken into account in determining the best measures and practices available to comply with subsection (b)(2) of section 1311 of this title to be applicable to any point source

12a

(other than publicly owned treatment works) within such categories or classes. Factors relating to the assessment of best available technology shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate;

(3) identify control measures and practices available to eliminate the discharge of pollutants from categories and classes of point sources, taking into account the cost of achieving such elimination of the discharge of pollutants; and

(4)(A) identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best conventional pollutant control technology (including measures and practices) for classes and categories of point sources (other than publicly owned treatment works); and

(B) specify factors to be taken into account in determining the best conventional pollutant control technology measures and practices to comply with section 1311(b)(2)(E) of this title to be applicable to any point source (other than publicly owned treatment works) within such categories or classes. Factors relating to the assessment of best conventional pollutant control technology (including measures

13a

and practices) shall include consideration of the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived, and the comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources, and shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate.

3. 33 U.S.C. 1316 provides:

National standards of performance

(a) Definitions

For purposes of this section:

(1) The term "standard of performance" means a standard for the control of the discharge of pollutants which reflect the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

(2) The term "new source" means any source, the construction of which is commenced after the publication of proposed regulations prescribing a standard of performance under this section which will be applicable to such

14a

source, if such standard is thereafter promulgated in accordance with this section.

* * * * *

(b) Categories of sources; Federal standards of performance for new sources

(1)(A) The Administrator shall, within ninety days after October 18, 1972, publish (and from time to time thereafter shall revise) a list of categories of sources, which shall, at the minimum, include:

- pulp and paper mills;
- paperboard, builders paper and board mills;
- meat product and rendering processing;
- dairy product processing;
- grain mills;
- canned and preserved fruits and vegetables processing;
- canned and preserved seafood processing;
- sugar processing;
- textile mills;
- cement manufacturing;
- feedlots;
- electroplating;
- organic chemicals manufacturing;
- inorganic chemicals manufacturing;
- plastic and synthetic materials manufacturing;
- soap and detergent manufacturing;

15a

fertilizer manufacturing;
petroleum refining;
iron and steel manufacturing;
nonferrous metals manufacturing;
phosphate manufacturing;
steam electric powerplants;
ferroalloy manufacturing;
leather tanning and finishing;
glass and asbestos manufacturing;
rubber processing; and
timber products processing.

(B) As soon as practicable, but in no case more than one year, after a category of sources is included in a list under subparagraph (A) of this paragraph, the Administrator shall propose and publish regulations establishing Federal standards of performance for new sources within such category. The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within one hundred and twenty days after publication of such proposed regulations, such standards with such adjustments as he deems appropriate. The Administrator shall, from time to time, as technology and alternatives change, revise such standards following the procedure required by this subsection for promulgation of such standards. Standards of performance, or revisions thereof, shall become effective upon promulgation. In establishing or revising Federal standards of performance for new sources under this section, the Administrator shall take into con-

16a

sideration the cost of achieving such effluent reduction, and any non-water quality, environmental impact and energy requirements.

(2) The Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards and shall consider the type of process employed (including whether batch or continuous).

(3) The provisions of this section shall apply to any new source owned or operated by the United States.

* * * * *

4. 33 U.S.C. 1326 provides:

Thermal discharges

(a) Effluent limitations that will assure protection and propagation of balanced, indigenous population of shellfish, fish, and wildlife

With respect to any point source otherwise subject to the provisions of section 1311 of this title or section 1316 of this title, whenever the owner or operator of any such source, after opportunity for public hearing, can demonstrate to the satisfaction of the Administrator (or, if appropriate, the State) that any effluent limitation proposed for the control of the thermal component of any discharge from such source will require effluent limitations more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made, the Administrator (or, if appropriate, the State) may impose an effluent limitation under such sections for such plant, with respect to the thermal component of such discharge

17a

(taking into account the interaction of such thermal component with other pollutants), that will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on that body of water.

(b) Cooling water intake structures

Any standard established pursuant to section 1311 of this title or section 1316 of this title and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

(c) Period of protection from more stringent effluent limitations following discharge point source modification commenced after October 18, 1972

Notwithstanding any other provision of this chapter, any point source of a discharge having a thermal component, the modification of which point source is commenced after October 18, 1972, and which, as modified, meets effluent limitations established under section 1311 of this title or, if more stringent, effluent limitations established under section 1313 of this title and which effluent limitations will assure protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in or on the water into which the discharge is made, shall not be subject to any more stringent effluent limitation with respect to the thermal component of its discharge during a ten year period beginning on the date of completion of such modification or during the period of depreciation or amortization of such facility for the purpose of section 167 or 169 (or both) of title 26, whichever period ends first.

18a

5. 33 U.S.C. 1362 provides in pertinent part:

Definitions

Except as otherwise specifically provided, when used in this chapter:

* * * * *

(13) The term “toxic pollutant” means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

6. 40 C.F.R. 125.83 provides in pertinent part:

What special definitions apply to this subpart?

* * * * *

Minimize means to reduce to the smallest amount, extent, or degree reasonably possible.

* * * * *

19a

7. 40 C.F.R. 125.94 provides in pertinent part:

How will requirements reflecting best technology available for minimizing adverse environmental impact be established for my Phase II existing facility?

(a) *Compliance alternatives*. You must select and implement one of the following five alternatives for establishing best technology available for minimizing adverse environmental impact at your facility:

(1)(i) You may demonstrate to the Director that you have reduced, or will reduce, your flow commensurate with a closed-cycle recirculating system. In this case, you are deemed to have met the applicable performance standards and will *not* be required to demonstrate further that your facility meets the impingement mortality and entrainment performance standards specified in paragraph (b) of this section. In addition, you are not subject to the requirements in §§ 125.95, 125.96, 125.97, or 125.98. However, you may still be subject to any more stringent requirements established under paragraph (e) of this section; or

(ii) You may demonstrate to the Director that you have reduced, or will reduce, your maximum through-screen design intake velocity to 0.5 ft/s or less. In this case, you are deemed to have met the impingement mortality performance standards and will not be required to demonstrate further that your facility meets the performance standards for impingement mortality specified in paragraph (b) of this section and you are not subject to the requirements in §§ 125.95, 125.96, 125.97, or 125.98 as they apply to impingement mortality. However, you are still subject to any applicable requirements for entrainment reduction and may still be subject to any

20a

more stringent requirements established under paragraph (e) of this section.

(2) You may demonstrate to the Director that your existing design and construction technologies, operational measures, and/or restoration measures meet the performance standards specified in paragraph (b) of this section and/or the restoration requirements in paragraph (c) of this section.

(3) You may demonstrate to the Director that you have selected, and will install and properly operate and maintain, design and construction technologies, operational measures, and/or restoration measures that will, in combination with any existing design and construction technologies, operational measures, and/or restoration measures, meet the performance standards specified in paragraph (b) of this section and/or the restoration requirements in paragraph (c) of this section;

(4) You may demonstrate to the Director that you have installed, or will install, and properly operate and maintain an approved design and construction technology in accordance with § 125.99(a) or (b); or

(5) You may demonstrate to the Director that you have selected, installed, and are properly operating and maintaining, or will install and properly operate and maintain design and construction technologies, operational measures, and/or restoration measures that the Director has determined to be the best technology available to minimize adverse environmental impact for your facility in accordance with paragraphs (a)(5)(i) or (ii) of this section.

(i) If the Director determines that data specific to your facility demonstrate that the costs of compliance

21a

under alternatives in paragraphs (a)(2) through (4) of this section would be significantly greater than the costs considered by the Administrator for a facility like yours in establishing the applicable performance standards in paragraph (b) of this section, the Director must make a site-specific determination of the best technology available for minimizing adverse environmental impact. This determination must be based on reliable, scientifically valid cost and performance data submitted by you and any other information that the Director deems appropriate. The Director must establish site-specific alternative requirements based on new and/or existing design and construction technologies, operational measures, and/or restoration measures that achieve an efficacy that is, in the judgment of the Director, as close as practicable to the applicable performance standards in paragraph (b) of this section, without resulting in costs that are significantly greater than the costs considered by the Administrator for a facility like yours in establishing the applicable performance standards. The Director's site-specific determination may conclude that design and construction technologies, operational measures, and/or restoration measures in addition to those already in place are not justified because of the significantly greater costs. To calculate the costs considered by the Administrator for a facility like yours in establishing the applicable performance standards you must:

(A) Determine which technology the Administrator modeled as the most appropriate compliance technology for your facility;

(B) Using the Administrator's costing equations, calculate the annualized capital and net operation and

22a

maintenance (O & M) costs for a facility with your design intake flow using this technology;

(C) Determine the annualized net revenue loss associated with net construction downtime that the Administrator modeled for your facility to install this technology;

(D) Determine the annualized pilot study costs that the Administrator modeled for your facility to test and optimize this technology;

(E) Sum the cost items in paragraphs (a)(5)(i)(B), (C), and (D) of this section; and

(F) Determine if the performance standards that form the basis of these estimates (*i.e.*, impingement mortality reduction only or impingement mortality and entrainment reduction) are applicable to your facility, and if necessary, adjust the estimates to correspond to the applicable performance standards.

(ii) If the Director determines that data specific to your facility demonstrate that the costs of compliance under alternatives in paragraphs (a)(2) through (4) of this section would be significantly greater than the benefits of complying with the applicable performance standards at your facility, the Director must make a site-specific determination of best technology available for minimizing adverse environmental impact. This determination must be based on reliable, scientifically valid cost and performance data submitted by you and any other information the Director deems appropriate. The Director must establish site-specific alternative requirements based on new and/or existing design and construction technologies, operational measures, and/or restoration measures that achieve an efficacy that, in the

23a

judgment of the Director, is as close as practicable to the applicable performance standards in paragraph (b) of this section without resulting in costs that are significantly greater than the benefits at your facility. The Director's site-specific determination may conclude that design and construction technologies, operational measures, and/or restoration measures in addition to those already in place are not justified because the costs would be significantly greater than the benefits at your facility.

(b) *National performance standards.*—

(1) *Impingement mortality performance standards.* If you choose compliance alternatives in paragraphs (a)(2), (a)(3), or (a)(4) of this section, you must reduce impingement mortality for all life stages of fish and shellfish by 80 to 95 percent from the calculation baseline.

(2) *Entrainment performance standards.* If you choose compliance alternatives in paragraphs (a)(1)(ii), (a)(2), (a)(3), or (a)(4) of this section, you must also reduce entrainment of all life stages of fish and shellfish by 60 to 90 percent from the calculation baseline if:

(i) Your facility has a capacity utilization rate of 15 percent or greater, and

(ii)(A) Your facility uses cooling water withdrawn from a tidal river, estuary, ocean, or one of the Great Lakes; or

(B) Your facility uses cooling water withdrawn from a freshwater river or stream and the design intake flow of your cooling water intake structures is greater than five percent of the mean annual flow.

24a

(3) *Additional performance standards for facilities withdrawing from a lake (other than one of the Great Lakes) or a reservoir.* If your facility withdraws cooling water from a lake (other than one of the Great Lakes) or a reservoir and you propose to increase the design intake flow of cooling water intake structures it uses, your increased design intake flow must not disrupt the natural thermal stratification or turnover pattern (where present) of the source water, except in cases where the disruption does not adversely affect the management of fisheries. In determining whether any such disruption does not adversely affect the management of fisheries, you must consult with Federal, State, or Tribal fish and wildlife management agencies).

(4) *Use of performance standards for site-specific determinations of best technology available.* The performance standards in paragraphs (b)(1) through (3) of this section must also be used for determining eligibility for site-specific determinations of best technology available for minimizing adverse environmental impact and establishing site specific requirements that achieve an efficacy as close as practicable to the applicable performance standards without resulting in costs that are significantly greater than those considered by the Administrator for a facility like yours in establishing the performance standards or costs that are significantly greater than the benefits at your facility, pursuant to § 125.94(a)(5).

* * * * *

Nos. 07-588, 07-589 and 07-597

In the Supreme Court of the United States

ENTERGY CORPORATION, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

PSEG FOSSIL LLC, ET AL., PETITIONERS

v.

RIVERKEEPER, INC., ET AL.

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

*ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT*

**REPLY BRIEF FOR THE FEDERAL PARTIES
AS RESPONDENTS SUPPORTING PETITIONERS**

GREGORY G. GARRE
*Solicitor General
Counsel of Record
Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217*

TABLE OF CONTENTS

	Page
A. The text of Section 316(b) does not unambiguously preclude consideration of the relationship between costs and benefits.....	2
B. The statutory structure, context, and history confirm that EPA may consider the relationship between costs and benefits in establishing water-intake standards under Section 316(b)	8
C. The court of appeals erroneously usurped EPA's discretion.....	14
D. EPA's consideration of costs and benefits in the rulemaking at issue here fell well within its discretion.....	18

TABLE OF AUTHORITIES

Cases:

<i>Appalachian Power Co. v. Train</i> , 566 F.2d 451 (4th Cir. 1977)	7, 16
<i>Barnhart v. Walton</i> , 535 U.S. 212 (2002)	14
<i>Central Hudson Gas & Elec. Corp., Op. EPA Gen. Counsel, In re</i> , NPDES No. 63, 1977 WL 28250 (July 29, 1977)	7, 16
<i>Chevron U.S.A. Inc. v. NRDC</i> , 467 U.S. 837 (1984) . . .	2, 14
<i>Consolidated Edison Co. v. New York State Dep't of Env't'l Conservation</i> , 726 F. Supp. 1404 (S.D.N.Y. 1989)	19
<i>EEOC v. Commercial Office Prods. Co.</i> , 486 U.S. 107 (1988)	7
<i>EPA v. California</i> , 426 U.S. 200 (1976)	12

II

Cases—Continued:	Page
<i>Florida Power Corp. Crystal River Power Plant Units 1, 2, & 3, In re</i> , NPDES Permit No. FL0000159 (EPA Region IV Sept. 1, 1988)	17
<i>Public Serv. Co. of N.H.</i> , (Seabrook Station, Units 1 & 2), <i>In re</i> , No. 76-7, 1977 WL 22370 (EPA June 10, 1977), remanded on other grounds <i>sub nom.</i> <i>Seacoast Anti-Pollution League v. Costle</i> , 572 F.2d 872 (1st Cir. 1978)	7, 16, 17
<i>Riverkeeper, Inc. v. United States EPA</i> , 358 F.3d 174 (2d Cir. 2004)	12, 14, 17, 18
<i>United States v. Banks</i> , 540 U.S. 31 (2003)	6

Statutes and regulations:

Clean Water Act, 33 U.S.C. 1251 *et seq.*:

33 U.S.C. 1311 (§ 301)	<i>passim</i>
33 U.S.C. 1311(b)(1)(A)	10
33 U.S.C. 1311(b)(2)(E)	10
33 U.S.C. 1314(b)(1)(B)	9, 10
33 U.S.C. 1314(b)(2)(B)	9
33 U.S.C. 1314(b)(4)(B)	9, 10
33 U.S.C. 1316 (§ 306)	<i>passim</i>
33 U.S.C. 1316(a)(1)	10
33 U.S.C. 1326(a) (§ 316)	11, 12, 13, 19
33 U.S.C. 1326(b) (§ 316(b))	<i>passim</i>

40 C.F.R.:

Section 125.83	6
Section 125.94(a)(5)(ii)	18

III

Miscellaneous:	Page
<i>American Heritage Dictionary of the English Language</i> (4th ed. 2006)	3, 6
<i>Black's Law Dictionary</i> (8th ed. 2004)	6
<i>California's Coastal Power Plants: Alternative Cooling System Analysis</i> (visited Oct. 27, 2008) < http://www.resources.ca.gov/copc/OTC/Chapter_6_Retrofit_and_Repower_Examples_28121840.pdf >	19
118 Cong. Rec. 33,762 (1972)	12
<i>Webster's Third New Int'l Dictionary of the English Language</i> (1981)	5

In the Supreme Court of the United States

No. 07-588

ENTERGY CORPORATION, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

No. 07-589

PSEG Fossil LLC, ET AL., PETITIONERS

v.

RIVERKEEPER, INC., ET AL.

No. 07-597

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

*ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT*

**REPLY BRIEF FOR THE FEDERAL PARTIES
AS RESPONDENTS SUPPORTING PETITIONERS**

The court of appeals held that the Environmental Protection Agency (EPA) may take cost-effectiveness but not cost-benefit considerations into account under Section 316(b) of the Clean Water Act (CWA or Act), 33 U.S.C.

(1)

1326(b). The States assert that costs may be a secondary but not a primary consideration under Section 316(b). And Riverkeeper contends that costs may be taken into account only if the environmental consequences of adopting the less expensive technology are *de minimis*. Because nothing in the statute draws any of those distinctions or otherwise unambiguously precludes consideration of the relationship between costs and benefits in establishing appropriate water-intake standards under Section 316(b), EPA's determination of how best to consider costs and benefits is entitled to deference under the principles set forth in *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842 (1984).

Respondents lean heavily on the text, structure, and legislative history of *different* best-technology provisions that govern the discharge of pollutants. Some of those provisions, however, expressly *require* cost-benefit analysis. Those provisions confirm that Congress regarded a comparison of costs and benefits as potentially relevant to the determination of which technology is “best.” Moreover, those discharge provisions are far more specific than Section 316(b)'s single terse sentence, which confers broad gap-filling authority on the agency to determine whether and how to consider the relationship between costs and benefits in addressing the distinct and unique issue of water intake. The court of appeals erred in depriving EPA of that statutory authority.

A. The Text Of Section 316(b) Does Not Unambiguously Preclude Consideration Of The Relationship Between Costs And Benefits

Section 316(b) requires that “the location, design, construction, and capacity of cooling water intake structures reflect the *best* technology *available* [(BTA)] for *minimizing* adverse environmental impact.” 33 U.S.C. 1326(b) (em-

phases added). That standard does not unambiguously preclude EPA from considering the relationship between costs and benefits—especially considering that Congress did not define any of the key statutory terms or otherwise specify the factors the agency may or must consider. See Pet. App. 20a¹; Gov’t Br. 15-18.

1. Respondents observe that “best” often means “surpassing all others in excellence,” and that Section 316(b) refers to the best technology available for the goal of “minimizing” adverse environmental impact. Riverkeeper Br. 24, 25 (quoting *American Heritage Dictionary of the English Language* 173 (4th ed. 2006)); see States Br. 19. Those observations do not respond to the government’s point that, as a matter of common usage, the “best” way of pursuing a goal is not necessarily the one that most single-mindedly achieves that goal at all costs. Gov’t Br. 15-16. For example, the “best” way to commute to and from work might not be the quickest and most direct route on a map. That route might be more dangerous than others, more prone to traffic jams, or more expensive (for example, it might require payment of a toll). Similarly, the “best” way to win a game does not typically entail violating the rules, even if cheating would improve one’s odds of winning, because the rules and other values matter as well. And the “best” way to catch fish is not necessarily the one that nets the most fish in the shortest period of time; to many, fly fishing has offsetting advantages. *Ibid.*

The States (at 26) object to the first of those examples on the ground that, if one’s objective is to commute as quickly or safely as possible, the quickest or safest route is necessarily the “best” method of achieving that goal. But even if speed is the stated objective, a commuter would not

¹ Citations to the Pet. App. refer to the appendix filed in No. 07-588.

ordinarily consider hiring a helicopter or professional race car driver or leaving home at 4:00 a.m. to be the “best” way to travel to work. And if safety is the ultimate goal, one would not ordinarily describe acquiring a tank or walking instead of driving ten miles as the “best” approach. Instead, even when a goal is defined as narrowly as commuting as quickly or safely as possible, additional practical considerations such as costs and other countervailing factors are often relevant, in daily life and ordinary English usage, to the selection of the “best” approach.

Moreover, the statute refers to the best technology “for,” rather than the technology that is best “at,” the achievement of the stated objective. 33 U.S.C. 1326(b). That choice of words reinforces the conclusion that EPA is authorized to take account of competing considerations in determining which technology is “best.” For example, an individual regarded as the best person *at* his trade might not be the best person *for* a particular job, depending on a range of considerations. Gov’t Br. 16. The States respond (at 28) that “if a particular job calls only for a person with superior skills *for* repairing shoes, then the best cobbler *at* his trade would also be the best person *for* the job.” But that blinks the reality that other considerations, such as honesty and salary demands, normally matter as well.

2. In any event, Section 316(b) does not refer to the best technology for reducing adverse environmental impact “to the lowest level possible,” as the States claim (at 24). Instead, the statute refers to “the best technology *available* for *minimizing* adverse environmental impact.” 33 U.S.C. 1326(b) (emphases added). Even the court of appeals recognized that the availability of a particular technology depends in part on its cost. Pet. App. 24a. The court erred, however, in holding that the statute unambiguously restricts EPA to considering whether a technology’s cost

could be “*reasonably borne* by the industry.” *Ibid.* Even considering the term “available” in isolation, many people would not think of a luxury item as being “available” simply because its purchase would not bankrupt them. Gov’t Br. 17; see Riverkeeper Br. 26 (“There is, to be sure, some potential ambiguity in terms of what the word ‘available’ means.”). The States argue (at 28) that an item’s cost is relevant to its availability only “if the person [is] not *required* to obtain the item.” But that merely begs the question of what is required here.

The States also suggest (at 29) that, in determining availability, EPA might consider cost “at some secondary level,” but not at “the forefront of its technology evaluation.” The States’ apparent recognition that costs may be considered to *some* degree, however, cannot be reconciled with their contention that Section 316(b) unambiguously precludes the approach that EPA has chosen. Section 316(b) does not distinguish, much less unambiguously distinguish, between consideration of cost as a “secondary” factor and consideration of cost as a “primary” decision-making criterion. And, absent contrary specification in the statutory text, the choice of the appropriate *degree* or *manner* of considering a permissible factor involves a classic exercise of agency discretion. See Gov’t Br. 39.

Moreover, technology must be available for “minimizing” adverse environmental impact. 33 U.S.C. 1326(b). Respondents argue that “‘minimize’ means ‘to reduce to the smallest possible number, degree, or extent.’” States Br. 19 (quoting *Webster’s Third New Int’l Dictionary of the English Language* 1438 (1981)). As the government’s opening brief explained (at 17), however, the terms “minimal” and “minimize” often refer to a lesser degree of reduction. Thus, if a person said that he was trying to minimize the risk of being hit by a car while crossing a street, he presum-

ably would not mean that he was staying inside his house at all times. Instead, the person presumably would mean that he was trying to reduce that risk consistent with other practical considerations—including economic ones such as the need to travel to work—and thus was taking lesser precautions such as looking both ways before crossing streets. *Ibid.*

While the States complain (at 29) that the government's opening brief cited only "a single source" for the proposition that "minimize" commonly refers to reductions that are not to the lowest possible level, that brief cited two perfectly authoritative sources: *American Heritage Dictionary* 123 (4th ed. 2006), and *Black's Law Dictionary* 1016 (8th ed. 2004). Gov't Br. 17. Another example is Riverkeeper's brief, which ultimately concedes (at 29) that "the Agency has some discretion (albeit not boundless) to determine that further differences in reduction would be so minor as to be unnecessary for compliance with the minimizing requirement." Riverkeeper thereby acknowledges that a particular technology can "minimiz[e]" environmental impacts, within the meaning of Section 316(b), even if it does not reduce those impacts to the smallest possible level.

The States also claim (at 19-20) that EPA's Phase I regulations adopt their definition of "minimize." In fact, those regulations define "minimize" to mean "to reduce to the smallest amount, extent, or degree *reasonably* possible." 40 C.F.R. 125.83 (emphasis added). Reasonableness, of course, depends on a range of considerations. See, e.g., *United States v. Banks*, 540 U.S. 31, 35-36 (2003). Thus, EPA determined in the rulemaking below that the appro-

priate “degree” of reduction may depend in part on “the relationship between costs and benefits.” Pet. App. 356a.²

3. The States suggest (at 22, 25) that the standard articulated in Section 316(b) is an “indivisible term of art” and that any ambiguities in the individual words are therefore irrelevant. The BTA standard, however, was by no means a term of art when Congress enacted it; instead, Congress appears to have articulated that standard for the first time in Section 316(b). And while Riverkeeper colorfully argues (at 23) that the government does not rely on “primary, secondary, or even tertiary definitions of the relevant terms,” that is manifestly untrue, as discussed above. The fact that the critical statutory terms can and do take on different meanings in different contexts only underscores the statute’s ambiguity. What matters, for *Chevron* deference purposes, is that nothing unambiguously compels the alternate usages proffered by respondents. See, e.g., *EEOC v. Commercial Office Prods. Co.*, 486 U.S. 107, 115 (1988).

² The States note (at 19-20) that EPA’s preamble to a 1976 rule treated the term “minimizing” as referring to “reducing to the smallest possible amount or degree.” J.A. 41. That rule was vacated, however, on judicial review. See *Appalachian Power Co. v. Train*, 566 F.2d 451 (4th Cir. 1977). The following year, EPA issued a permitting decision and a General Counsel opinion making clear the agency’s view that it would *not* be “reasonable to interpret Section 316(b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained.” *In re Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2)*, No. 76-7, 1977 WL 22370 (EPA June 10, 1977), remanded on other grounds *sub nom. Seacoast Anti-Pollution League v. Costle*, 572 F.2d 872 (1st Cir. 1978); accord *In re Cent. Hudson Gas & Elec. Corp., Op. EPA Gen. Counsel*, NPDES No. 63, 1977 WL 28250, at *8 (July 29, 1977); see p. 16, *infra*. And EPA’s current regulatory definition of “minimize,” which was established in the Phase I rule, is the one quoted in the text.

B. The Statutory Structure, Context, And History Confirm That EPA May Consider The Relationship Between Costs And Benefits In Establishing Water-Intake Standards Under Section 316(b)

1. Section 316(b) cross-references Sections 301 and 306 of the CWA by specifying that standards established pursuant to those sections, which govern the discharge of pollutants, must require that intake structures reflect BTA. 33 U.S.C. 1326(b). Sections 301 and 306 include numerous other best-technology standards. For all of those standards, Congress expressly *required* EPA to consider costs in determining what technologies are “best.” And for two of those standards, Congress specifically required EPA to consider the *relationship* between costs and benefits in identifying the “best” technologies. Gov’t Br. 19-21.

Those express statutory mandates strongly support EPA’s determination that consideration of the relationship between costs and benefits is *permissible* under Section 316(b). In particular, those provisions refute Riverkeeper’s notion (at 21) that a comparison between costs and benefits is generally inconsistent with the application of a best-technology standard. And Congress’s decision to specify the factors that EPA must consider under the various best-technology standards that govern the discharge of pollutants under Sections 301 and 306, but not under the different best-technology standard that governs the intake of water under Section 316(b), confirms that Congress intended to grant broad gap-filling authority to the agency to interpret and implement Section 316(b)’s terse and unique provision governing water intake. Gov’t Br. 18-26.

Respondents fail to articulate a coherent and consistent theory as to the relevance of the cross-referenced sections to the proper interpretation of Section 316(b). They insist that, “[b]ecause section 316(b) addresses intake structures,

not effluent [discharges], it stands apart from the statutory provisions elsewhere in the Act that govern effluent limitations.” States Br. 5; see *id.* at 32; Riverkeeper Br. 37 n.19; *id.* at 40 (suggesting that the Section 301 standards are “unrelated” to Section 316(b)). But they nonetheless argue at length (e.g., States Br. 34-36) that, by expressly *requiring* consideration of the relationship between costs and benefits under two of the cross-referenced standards, Congress unambiguously *prohibited* such consideration under Section 316(b).

Neither of those conclusions logically follows from a comparison between Section 316(b) and the cross-referenced provisions of the Act. Each of the cross-referenced best-technology standards in Sections 301 and 306 identifies specific lists of factors that EPA must consider. And as noted, those lists expressly require cost-benefit analysis as one of multiple mandated considerations for some but not all of those standards. See 33 U.S.C. 1314(b)(1)(B), (2)(B) and (4)(B); see also Gov’t Br. 19-21.

For intake restrictions, however, Congress enacted only the one-sentence Section 316(b), and it conspicuously declined to provide an additional list of factors that EPA is required, permitted, or forbidden to consider. Respondents are therefore incorrect in stating that “[t]hroughout the CWA, Congress told EPA when and how it could consider costs.” States Br. 16. For water-intake limitations—unlike pollutant-discharge restrictions—Congress provided no specific direction *either way* beyond the ambiguous BTA standard. The only reasonable conclusion from that statutory scheme is that Congress thereby delegated *broader* gap-filling and interpretive authority to EPA for water-intake limitations under Section 316(b) than for pollutant-discharge restrictions under Sections 301 and 306. Gov’t Br. 22-23.

The States nonetheless argue (at 35) that “the reference in section 316(b) to section 306 (the section applicable to new rather than existing facilities) confirms Congress’ intent to eliminate EPA’s authority to make cost-benefit comparisons when it sets new source performance standards.” There is no textual basis whatsoever for treating Section 316(b)’s BTA standard for intake limits as being coextensive with Section 306’s best available demonstrated control technology (BADT) standard for the discharge of pollutants from new sources. See 33 U.S.C. 1316(a)(1). Indeed, the States elsewhere acknowledge (at 33) that, in selecting different standards for the various limitations under Sections 301, 306, and 316, Congress obviously “intended to give each standard different meaning in its application.” Especially considering that Section 316(b) addresses a different subject matter than Sections 301 and 306 (intake of water as opposed to discharge of pollutants) and establishes a different standard, there is no reason to believe that Congress intended to equate BTA with any one of the Section 301 or 306 standards.

There is even less basis for construing Section 316(b) as unambiguously mirroring BADT as opposed to one of the other cross-referenced standards, such as the best practicable control technology (BPT) or best conventional pollution control technology (BCT) standards—standards under which Congress expressly *required* consideration of the relationship between costs and benefits. See 33 U.S.C. 1311(b)(1)(A) and (2)(E); 33 U.S.C. 1314(b)(1)(B) and (4)(B); see also Gov’t Br. 19, 20. The States contend (at 36) that Congress did not evince an “unambiguous intent” to pat-

tern BTA on BCT. But that is the government's point—the statute is ambiguous on this issue.³

The States also contend (at 36-37) that Section 316(a) does not permit consideration of the relationship between costs and benefits. That provision states that, if a Section 301 or 306 discharge limitation on heat would otherwise be “more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife,” a permitting authority “may impose” a Section 301 or 306 limitation “that will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife.” 33 U.S.C. 1326(a). Section 316(a) thereby authorizes EPA and state permitting authorities to grant variances from Section 301 and 306 limitations on discharges of heat. While it is true that Section 316(a) variances are not based on cost considerations, that hardly means that Section 316(b)—which sets forth a different standard for regulating a different matter and does not cross-reference Section 316(a)—unambiguously precludes cost-benefit analysis.

2. Nor (even assuming that legislative history could ever resolve statutory ambiguity for purposes of *Chevron*) does the legislative history unambiguously demonstrate a congressional intent to preclude consideration of the relationship between costs and benefits under Section 316(b). The States argue (at 38) that “[t]he legislative history of

³ Because the statute does not equate BTA with BAT or BADT, there is no need to decide in this case whether EPA may consider the relationship between costs and benefits in determining BAT or BADT. Riverkeeper correctly argues (at 35-37) that EPA is not *required* to consider that relationship in making those determinations, and that BAT standards are intended to be stricter than BPT standards. But it does not necessarily follow that *no* cost-benefit consideration is *permitted* for either BAT or BADT. See Gov't Br. 23-24.

section 316(b) is sparse and undeserving of any significant weight.” The government generally agrees. Section 316(b) was “added by the conference committee without substantive comment.” *Riverkeeper, Inc. v. United States EPA*, 358 F.3d 174, 186 n.12 (2d Cir. 2004) (*Riverkeeper I*). And while the only floor statement concerning Section 316(b) supports EPA’s interpretation, that statement reflects the views of a single legislator, Representative Clausen. See Gov’t Br. 23; 118 Cong. Rec. 33,762 (1972).

Like the States, *Riverkeeper* (at 47) also disclaims reliance on legislative history, but then goes on to discuss at length the legislative history of *other* provisions of the CWA. *Riverkeeper*’s basic argument (at 6-12, 47-49) is that, by choosing to rely primarily on technology-based discharge standards rather than water-quality standards, Congress rejected cost-benefit analysis in the CWA. But Congress’s reasons for generally preferring technology-based discharge standards (which directly address discharges as opposed to water bodies) to water-quality standards (which directly address water bodies as opposed to individual discharges), see generally *EPA v. California*, 426 U.S. 200, 202-203 (1976), do not imply any particular view as to whether EPA should consider the relationship between costs and benefits in formulating appropriate standards. That is evident on the face of the BCT and BPT standards, which are technology-based discharge standards that expressly *require* consideration of the relationship between costs and benefits. See p. 10, *supra*.

Moreover, the legislative history proffered by respondents relates almost entirely to discharges of pollutants governed by Sections 301, 306, and 316(a), not to water intakes governed by Section 316(b). The States are clear on that point: after discounting the legislative history of Section 316(b) on the ground that it consists of only a floor

statement, the States go on to rely on legislative history—mostly floor statements, ironically—concerning other provisions of the Act. States Br. 38-41. Going even farther afield, Riverkeeper searched the National Archives for various notes, memoranda, and correspondence that, it claims, show that the conferees decided to address thermal discharges with a water-quality based variance (in Section 316(a)) and water intake through a best-technology standard (in Section 316(b)). Riverkeeper Br. 10 n.6, 13 n.8. That much is obvious on the face of the statute. But none of the materials on which respondents rely tackles the question presented here, which is whether Section 316(b)'s best-technology standard precludes, permits, or (like BPT and BCT) requires consideration of the relationship between costs and benefits. And even if the assorted materials relied on by Riverkeeper were on point, and even if they were considered reliable and relevant sources of legislative history, they could hardly establish an *unambiguous* congressional intent—especially considering that Representative Clausen's floor statement, which is at least a more conventional form of legislative history, supports EPA's interpretation.

Respondents' discussion shows only that Section 316(b)'s intake provision received very little consideration in the legislative debates, especially compared to the Section 301, 306, and 316(a) discharge restrictions. But, if anything, that undercuts respondents' position because the gravamen of their argument is that Congress in enacting Section 316(b) specifically "determined the relationship between the costs and benefits." States Br. 44. If that were true, one would expect at least *some* indication that Congress had actually considered the question and had determined that the benefits of applying respondents' proposed water-intake standard justified the costs. As the

Second Circuit explained in *Riverkeeper I*, however, the “brevity” of Section 316(b), combined with the “paucity of legislative history, when measured against the volumes of drafts and speeches devoted to other aspects of the 1972 amendments,” suggests that Congress “desire[d] to delegate significant rulemaking authority to the Agency.” 358 F.3d at 186 n.12.

C. The Court Of Appeals Erroneously Usurped EPA’s Discretion

Because Section 316(b) does not “directly sp[ea]k to the precise question at issue,” EPA’s reasonable interpretation of the ambiguous statutory text is entitled to deference. *Chevron*, 467 U.S. at 842; see Gov’t Br. 26-30.

1. The court of appeals turned normal principles of *Chevron* deference on their head by relying on an artificial presumption that cost-benefit analysis is forbidden unless Congress clearly authorizes it. See Pet. App. 22a-23a. Respondents do not appear to defend that presumption, see *Riverkeeper* Br. 41-42; States Br. 43, and for good reason: Congress’s *silence* on whether an agency may consider the relationship between costs and benefits provides no basis for inferring an unambiguous legislative *prohibition* against such consideration. Gov’t Br. 30-34. “[S]ilence, after all, normally creates ambiguity. It does not resolve it.” *Barnhart v. Walton*, 535 U.S. 212, 218 (2002). The court of appeals’ presumption is especially unwarranted because, far from being aberrational, cost-benefit analysis instead is a routine feature of private and governmental decision-making. See Gov’t Br. 13-14.

2. The extent of the court of appeals’ departure from normal deference principles is further underscored by its attempt to micro-manage EPA’s decisionmaking through rules that cannot be found in the Act. The court concluded,

for example, that EPA may consider costs as part of “cost-effectiveness” but not “cost-benefit” analysis—terms that appear nowhere in Section 316(b). See Pet. App. 24a, 26a. Based on that atextual distinction, the court would have allowed EPA to adopt a significantly cheaper technology that would save 99-101 fish instead of 100-103 fish. *Id.* at 22a-23a & n.10, 27a. By permitting the agency to weigh costs against at least one or two fish (and perhaps more, though the number is unclear), the court of appeals essentially permitted EPA to consider the relationship between costs and benefits, but only in the most extreme cases. Even on its own terms, therefore, the court of appeals’ decision lacks a principled basis in the statutory text. Moreover, the court of appeals agreed that EPA could consider other practical factors such as energy efficiency that, while important, are no more grounded in explicit statutory text than the relationship between costs and benefits. See *id.* at 26a n.12.

While respondents do not directly address those points, their own positions rest on similar errors. The States (at 16, 21, 29) repeatedly assert that costs can be a “secondary” but not a “primary” consideration under Section 316(b). That approach has no more grounding in the statute than the court of appeals’ cost-benefit/cost-effectiveness distinction. And as noted above, the States’ embrace of cost as a secondary factor only underscores that EPA is entitled to deference, because the precise manner or extent of considering a permissible factor is a textbook matter for agency discretion. See p. 5, *supra*.

Similarly, Riverkeeper concedes (at 29), in the course of assuring this Court that its position would not produce absurd results, that “the Agency has some discretion (albeit not boundless) to determine that further differences in reduction would be so minor as to be unnecessary for compli-

ance with the minimizing requirement.” But there is no more principled basis for cabining EPA’s conceded discretion to “minor” (*ibid.*) matters than for limiting it to cost-effectiveness or “secondary” considerations. Congress expressed no unambiguous intent to draw any of those proffered distinctions.

3. Riverkeeper argues (at 43-44) that the agency’s interpretation is not entitled to *Chevron* deference because, in the preamble to a 1976 rulemaking that was vacated on judicial review, EPA initially construed Section 316(b) to preclude cost-benefit analysis. That characterization is neither correct nor relevant (especially considering that the rule was vacated, see *Appalachian Power Co. v. Train*, 566 F.2d 451 (4th Cir. 1977)). EPA determined in the 1976 preamble that cost-benefit analysis is not “required,” but it did not squarely address whether consideration of the relationship between costs and benefits is permitted. Instead, in a portion of the preamble that Riverkeeper does not discuss, the agency emphasized that “economic practicability” is an important consideration that should be analyzed on a case-by-case basis. J.A. 42.

The following year, in a permitting decision and a General Counsel opinion, EPA explained that, while Section 316(b) does not require a formal cost-benefit analysis, it would *not* be “reasonable to interpret Section 316(b) as requiring use of technology whose cost is wholly disproportionate to the environmental benefit to be gained.” *In re Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2)*, No. 76-7, 1977 WL 22370 (EPA June 10, 1977) (*Pub. Serv. Co. of N.H.*), remanded on other grounds *sub nom. Seacoast Anti-Pollution League v. Costle*, 572 F.2d 872 (1st Cir. 1978); accord *In re Cent. Hudson Gas & Elec. Corp., Op. EPA Gen. Counsel*, NPDES No. 63, 1977 WL 28250, at *8 (July 29, 1977). Ever since, permitting authorities in imple-

menting Section 316(b) have considered the relationship between costs and benefits to at least that extent. Gov't Br. 27-28.

Riverkeeper contends (at 45) that EPA, in applying the “wholly disproportionate” test, has considered only whether the benefits of additional protective measures would be *de minimis*. That gloss, however, is flatly inconsistent with the test as EPA has articulated it: EPA directed permitting authorities to determine whether “cost is wholly *disproportionate* to the environmental *benefit* to be gained,” not whether the benefit is *de minimis*. *Public Serv. Co. of N.H.*, 1977 WL 22370 (emphases added). The court of appeals’ decision is thus incompatible with more than 30 years of settled agency practice. See also, e.g., *In re Florida Power Corp. Crystal River Power Plant Units 1, 2, & 3*, NPDES Permit No. FL0000159, at 7-8 (EPA Region IV Sept. 1, 1988) (determining that closed-cycle cooling towers were not BTA because their extremely high cost was “wholly disproportionate” to benefits at a particular plant, even though that technology would reduce entrainment by 85% and there were no other technologically practical alternatives to reduce entrainment “to an acceptable level” at the plant).

Riverkeeper is likewise incorrect in contending (at 45-46) that EPA recognized during the Phase I rulemaking for new sources that “it lacked authority to compare costs and benefits under Section 316(b).” As the government’s opening brief explained (at 38-39), the Phase I rule rejected a technology known as dry cooling because, among other things, dry cooling “costs more than ten times as much per year as closed-cycle wet cooling, but it is estimated to reduce water intake by only an additional 5 percent relative to once-through cooling.” *Riverkeeper I*, 358 F.3d at 194 (footnotes omitted). The Second Circuit upheld EPA’s con-

sideration of the relationship between costs and benefits, along with other factors, as falling within the agency's "considerable discretion." *Id.* at 195. Riverkeeper makes no effort to reconcile its characterization of the Phase I rulemaking with those facts.

D. EPA's Consideration Of Costs And Benefits In The Rulemaking At Issue Here Fell Well Within Its Discretion

Because EPA acted within the scope of its statutory authority in promulgating the performance standards and site-specific cost-benefit variance provision at issue here, this Court should reverse the judgment of the court of appeals and reinstate those portions of the rule. Although respondents dispute EPA's authority to give any weight to the relationship between costs and benefits, they raise no substantial challenge to the specific manner in which EPA considered that relationship here.

Nor could they. EPA did not select the performance standards based only on a cost-benefit analysis. Instead, the agency rejected closed-cycle cooling technology as BTA "based on its generally high costs (due to conversions), the fact that other technologies approach the performance of this option, concerns for energy impacts due to retrofitting existing facilities, and other considerations." Pet. App. 255a; see Gov't Br. 35-37. The cost-benefit variance provision likewise does not turn on a strict cost-benefit comparison. Instead, it permits the operator of an individual facility to apply for a site-specific determination of BTA—which itself would be based on a permitting authority's discretionary consideration and balancing of all relevant factors—only if the facility's cost of complying with the national performance standards "would be *significantly* greater than the benefits." 40 C.F.R. 125.94(a)(5)(ii) (emphasis added); see Gov't Br. 39-41. As the government's

opening brief explained (at 14), agencies' consideration of the relationship between costs and benefits may take a number of different forms. EPA's consideration of various relevant factors in the rulemaking below was by no means among the more robust types of cost-benefit analysis.⁴

Riverkeeper observes (at 52) that EPA "assigned no dollar value" to many of the relevant benefits "because it was too difficult to determine a meaningful [monetary] value for them." The agency did, however, undertake a "qualitative[]" analysis of the benefits that were not quantified. Pet. App. 485a; see *id.* at 482a-515a. EPA ultimately concluded that, "[a]lthough not identical, the ranges of impingement and entrainment reduction are similar under both" the cooling-towers option and the selected option, while the costs of the former far exceed those of the latter. *Id.* at 260a. Far from reflecting a defect in EPA's analysis, the agency's conclusion that it would make little sense to try to compare all relevant considerations in purely *monetary* terms demonstrates the flexibility and common-sense nature of cost-benefit analysis.

⁴ The States assert (at 8) that EPA has found closed-cycle cooling to be BTA "at more than a dozen existing power plants." That is incorrect. In both of the examples cited by the States, power plants were retrofitted with closed-cycle cooling technology to reduce thermal discharges pursuant to Section 316(a). See *Consolidated Edison Co. v. New York State Dep't of Env't'l Conservation*, 726 F. Supp. 1404, 1406 (S.D.N.Y. 1989); *California's Coastal Power Plants: Alternative Cooling System Analysis* 6-2 (visited Oct. 27, 2008) <http://www.resources.ca.gov/copc/OTC/Chapter_6_Retrofit_and_Repower_Examples_28121840.pdf>. Some other facilities have been retrofitted for operational, not pollution-related, reasons. See *id.* at 6-2, 6-3, 6-4. The States' reliance (at 7) on the preamble to the vacated 1976 rule is likewise misplaced, not only because the rule was vacated, but also because that preamble explained that closed-cycle cooling is *not* "universally and necessarily the best technology available," and that BTA should instead be determined on a facility-specific basis. J.A. 43.

Respondents do not appear to dispute that the validity of the cost-benefit variance depends entirely on the resolution of the question presented. See Gov't Br. 40-41. Riverkeeper contends (at 53 n.24), however, that the court of appeals' invalidation of the performance standards rests on the alternative ground that EPA did not adequately explain the basis for its decisionmaking. But what the court considered unclear is whether the agency "based its decision on permissible cost-effectiveness analysis or exceeded its authority by relying impermissibly upon a cost-benefit analysis." Pet. App. 36a. Because that conclusion rests entirely on the court of appeals' erroneous holding that EPA may not consider the relationship between costs and benefits, it does not provide an independent basis for a remand to the agency.

Riverkeeper further contends (at 31 n.16) that the court of appeals invalidated EPA's performance standards on the (assertedly) separate ground that they allowed facilities that could comply with the upper end of a range to comply with the lower end instead, and that the validity of the ranges is not fairly included in the question presented. As the government's opening brief explained (at 39 n.3), however, the court remanded EPA's chosen ranges based on its view that Section 316(b) requires "as much reduction of adverse environmental impacts as is technologically possible." Pet. App. 43a. Because that holding rests on the court's erroneous resolution of the question presented, and Riverkeeper acknowledges (at 31 n.16) that ranges are otherwise permissible, the court's invalidation of the ranges is fairly encompassed in the question presented and should be reversed.

* * * * *

For the foregoing reasons and those stated in the government's opening brief, the judgment of the court of appeals should be reversed with respect to the performance standards and the site-specific cost-benefit provision, those provisions should be reinstated, and the case should be remanded.

Respectfully submitted.

GREGORY G. GARRE
Solicitor General

OCTOBER 2008

To: Goo, Michael[Goo.Michael@epa.gov]
From: Kopocis, Ken
Sent: Fri 3/22/2013 7:32:26 PM
Subject: 4:00 TODAY

Is there another 316(b) meeting today.

ÿ

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Kopocis, Ken
Sent: Wed 3/20/2013 1:11:28 PM
Subject: Fw: Meeting with Tony Earley

Please be sure this gets on our calendars.
Thanks.

From: Goo, Michael
Sent: Wednesday, March 20, 2013 9:09:17 AM
To: Kopocis, Ken; Stoner, Nancy
Subject: Meeting with Tony Earley

CEO of PG and E is at 10:15. Bob agreed OW should come. 316b de minimis will be discussed. You should get an invite but if not its the bullet room I think.

ÿ

To: Loop, Travis[Loop.Travis@epa.gov]
Cc: Penman, Crystal[Penman.Crystal@epa.gov]
From: Kopocis, Ken
Sent: Wed 2/27/2013 12:43:00 PM
Subject: RE: edison electric background

Thanks. I will review this afternoon.

From: Loop, Travis
Sent: Tuesday, February 26, 2013 10:05 PM
To: Kopocis, Ken
Cc: Penman, Crystal
Subject: edison electric background

Ken

I provided this info for the Edison Electric talk, but heard Betsy was looking for 316b info for you. I've asked them to triple check the content in here and to update Wednesday if needed.

Travis Loop
Director of Communications
Office of Water
U.S. Environmental Protection Agency
202-870-6922

To: Loop, Travis[Loop.Travis@epa.gov]
From: Kopocis, Ken
Sent: Wed 2/6/2013 6:35:37 PM
Subject: Fw: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)
Speaker Materials - Water Event - Debunking the Myth.docx

Here it is.

----- Original Message -----

From: Ken Kopocis
Sent: 01/31/2013 06:03 PM EST
To: Travis Loop; Crystal Penman
Subject: Fw: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Travis, here are the questions. I will review them.
 Crystal, please send Jon the bio and pic (if we have to.)

Ken Kopocis
 Office of Water
 U.S. Environmental Protection Agency
 (202) 564-5700

----- Forwarded by Ken Kopocis/DC/USEPA/US on 01/31/2013 06:01 PM -----

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
To: Ken Kopocis/DC/USEPA/US@EPA
Cc: "Smith, Kevin" <Kevin.M.Smith@gs.com>
Date: 01/31/2013 04:29 PM
Subject: RE: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Hello Ken,

Here are the proposed questions, but I send them to you with this one overarching thought . . . we want you to talk about things that you think make sense to talk about, so please feel free to suggest any changes, etc.

I'm copying Kevin Smith at Goldman Sachs, to keep him in the loop, too.

Would you please ask your assistant to send us your bio and photo for the summit program?

Thanks, and speak with you soon –

Jon

From: Freedman, Jon B (GE Power & Water)
Sent: Wednesday, January 30, 2013 4:39 PM
To: 'Kopocis.Ken@epamail.epa.gov'
Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Hello Ken,

Sorry you have to take such an early train.

I'm boarding a plane in Reno right now, but will get you the questions tomorrow.

Best,

Jon

From: Kopocis.Ken@epamail.epa.gov [mailto:Kopocis.Ken@epamail.epa.gov]
Sent: Wednesday, January 30, 2013 04:35 PM
To: Freedman, Jon B (GE Power & Water)
Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Jon, due to some scheduling issues beyond my control, I will not be arriving in NYC until Friday morning. I am counting on the 5:00 AM Acela being on time. When we met, we discussed me getting some questions in advance. How is that coming? Thanks.

Ken Kopocis
 Office of Water
 U.S. Environmental Protection Agency
 (202) 564-5700

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
To: Ken Kopocis/DC/USEPA/US@EPA
Cc: Crystal Penman/DC/USEPA/US@EPA
Date: 01/16/2013 03:23 PM
Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Thanks, Ken. Good point about Monday!

Crystal -- Just let me know a good time on Tuesday, thanks --

Jon

From: Kopocis.Ken@epamail.epa.gov [mailto:Kopocis.Ken@epamail.epa.gov]
Sent: Wednesday, January 16, 2013 03:15 PM
To: Freedman, Jon B (GE Power & Water)
Cc: Penman.Crystal@epamail.epa.gov <Penman.Crystal@epamail.epa.gov>
Subject: RE: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Let's do in person on Tuesday -- there is some big event happening on Monday some of us are attending. I'll ask Crystal to set it up.

Ken Kopocis
Office of Water
U.S. Environmental Protection Agency
(202) 564-5700

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
To: Ken Kopocis/DC/USEPA/US@EPA
Date: 01/16/2013 02:06 PM
Subject: RE: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Ken,

I'm going to be in Orlando at a GE leadership meeting on Friday, but I can call you at 12:30, if that's good for you.

Alternatively, I can stop by in person on Monday or Tuesday of next week.

Whatever is best for you, thanks –

Jon

From: Kopocis.Ken@epamail.epa.gov [<mailto:Kopocis.Ken@epamail.epa.gov>]
Sent: Tuesday, January 15, 2013 6:27 PM
To: Freedman, Jon B (GE Power & Water)
Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Thanks, Jon.

We should chat. Would 12:30 on Friday work for you ?

Ken Kopocis
Office of Water
U.S. Environmental Protection Agency
(202) 564-5700

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
To: Ken Kopocis/DC/USEPA/US@EPA
Date: 01/15/2013 12:40 PM
Subject: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Hi Ken,

Very pleased that you're going to join us as a keynote speaker.

We'll be hosting a small dinner the night before, and I hope you'll join us for that, too.

I'd be happy to give you a call at a good time for you – or even stop by your office – to provide more background.

You can register using the link below.

Best,

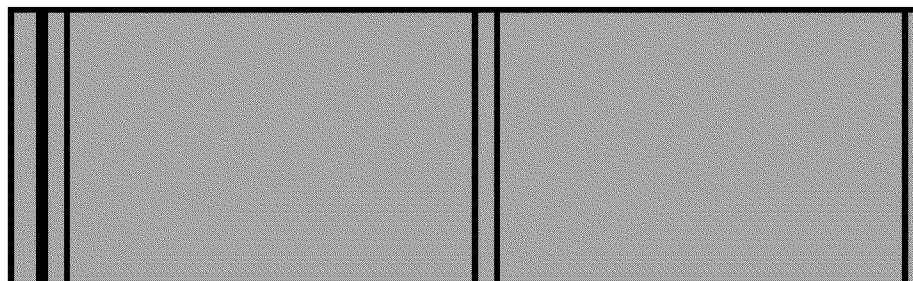
Jon

From: GoldmanSachsCenterforEnvironmentalMarkets@ny.email.gs.com
[mailto:GoldmanSachsCenterforEnvironmentalMarkets@ny.email.gs.com]

Sent: Tuesday, January 15, 2013 12:16 PM

Subject: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Invitation to
Register



Water: Emerging Risks and Opportunities Summit

Please join us for the

Water: Emerging Risks and Opportunitiesco-hosted by **GE Power & Water, Goldman Sachs and the World Economic Forum****Friday, February 8, 2013**Goldman Sachs
200 West Street
New York, NY

This unique summit will bring key stakeholders together to discuss the increasing importance of water of technologies and infrastructure needs, role of public vs. private sector capital, and a view on policy. Select confirmed speakers include:

- **Leigh Abramson** – Managing Director, MetalMark Capital
- **David Arison** – Director of Global Business Relations, Miya
- **Don Correll** – Former President & CEO of American Water Works, Former Chairman & CEO of United Water Resources
- **Matthew J. Diserio** – Co-Founder and President, Water Asset Management
- **Paul Goodfellow** – VP Unconventional, Shell
- **Virginia Grebbien** – President of Water and Infrastructure, Parsons Corporation
- **Caswell Holloway** – Deputy Mayor for Operations NYC, Previously Commissioner of NYC Department of Environmental Protection
- **Jeff Kightlinger** – General Manager, Metropolitan Water District of Southern California
- **Ken Kopocis** – Senior Advisor, Nominated EPA Assistant Administrator, Office of Water
- **Heiner Markhoff** – President & CEO, GE Power & Water, Water & Process Technologies
- **Gretchen McClain** – President & CEO, Xylem Inc
- **Pat Mulroy** – General Manager, Southern Nevada Water Authority
- **Sandy Stash** – Global SVP, Health, Safety, Security, Environment and Operational Assurance, Talisman Energy
- **Andrew Steer** – President & CEO, World Resources Institute
- **David Sunding** – Professor, College of Natural Resources at UC Berkeley / Co-Director, Berkeley Water Center

Please visit the summit [website](#) for complete details and registration information. We encourage you to ask any questions please contact Katie Criqui at 1-212-902-3635 or katie.criqui@gs.com.

** We estimate that the cost per person for this event (continental breakfast and box lunch) to be \$37. If you are a Restricted Recipient or otherwise believe you are entitled to a discount, please contact the event organizer prior to registration.*

--	--	--	--



***** ATTACHMENT NOT DELIVERED *****

This Email message contained an attachment named

image001.jpg

which may be a computer program. This attached computer program could contain a computer virus which could cause harm to EPA's computers, network, and data. The attachment has been deleted.

This was done to limit the distribution of computer viruses introduced into the EPA network. EPA is deleting all computer program attachments sent from the Internet into the agency via Email.

If the message sender is known and the attachment was legitimate, you should contact the sender and request that they rename the file name extension and resend the Email with the renamed attachment. After

receiving the revised Email, containing the renamed attachment, you can rename the file extension to its correct name.

For further information, please contact the EPA Call Center at (866) 411-4EPA (4372). The TDD number is (866) 489-4900.

***** ATTACHMENT NOT DELIVERED *****

***** ATTACHMENT NOT DELIVERED

This Email message contained an attachment named
image001.jpg

which may be a computer program. This attached computer program could

contain a computer virus which could cause harm to EPA's computers,

network, and data. The attachment has been deleted.

This was done to limit the distribution of computer viruses introduced

into the EPA network. EPA is deleting all computer program attachments

sent from the Internet into the agency via Email.

If the message sender is known and the attachment was legitimate, you

should contact the sender and request that they rename the file name

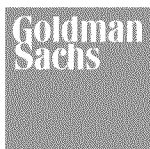
extension and resend the Email with the renamed attachment.
After

receiving the revised Email, containing the renamed attachment,
you can

rename the file extension to its correct name.

For further information, please contact the EPA Call Center at
(866) 411-4EPA (4372). The TDD number is (866) 489-4900.

***** ATTACHMENT NOT DELIVERED



Water: Emerging Risks and Opportunities Summit

Agenda / Event Logistics

#H2OSummit

Date: Friday, 8 April, 2013

Time: 8:30 a.m. – 4:15 p.m. EST

Location: 200 West St, New York, NY 10282

Contact: Kevin Smith, EMG (New York) – 212-357-9750

David Sperry, EMG (New York) – 212-357-8855

Katie Criqui – Events Team (New York) – 212-902-3635

Event Overview:

A unique event to bring key stakeholders together to discuss the increasing importance of water issues, including the nexus between water and energy, scale-up of technologies and infrastructure needs, role of public vs. private sector capital, and a view on policy initiatives related to water. The event will feature C-level executives and thought leaders from a wide range of large multinational corporations, influential VC / PE firms, non-government organizations, as well as federal, state and municipal government participants.

Proposed Agenda – subject to change

9:00 – 9:15am	Welcome and Introduction
9:15 – 10:00am	Water – Debunking The Myth
10:00 – 10:30am	Policy – Opening the Floodgates
10:30 – 10:45am	Break
10:45 – 11:45am	Water and Energy – Friend or Foe
11:45 – 12:15pm	Pricing Water – Journey to Efficiency
12:15 – 12:30pm	Break for Lunch Setup
12:30 – 1:15pm	Water Risk Management – Emerging Tools (Demonstration over Lunch)
1:15 – 1:30pm	Break for Lunch Clean-up
1:30 – 2:30pm	Technology – Challenge of Scale-up
2:30 – 3:30pm	Capital flow – Quenching the Thirst
3:30 – 4:00pm	Water Infrastructure – The Local Perspective
4:00 – 4:15pm	Closing Remarks

Water – Debunking the Myth

9:15 – 10:00 a.m.

Speakers

Ken Kopocis – Senior Advisor, Nominated EPA Assistant Administrator for Water

David Sunding – Professor, UC Berkley / Principal, Brattle Group

Moderator

Kyung-Ah Park – Head of Environmental Markets Group, Goldman Sachs

Format

- Fireside Chat
 - Moderator opening and introduction to speakers (3 minutes)
 - Moderator Q&A (30 minutes)
 - Q&A from audience (10 minutes)
 - Conclude and thank you to panelists (2 minutes)
- Speakers have been provided a list of potential questions, which they will answer as prompted by the moderator. The questions listed are meant to serve as a guide for the dialogue, but should not limit the flow of the discussion — the more conversational, the better.

Potential Questions

- General Questions
 - Talk about the competing demand drivers for water. How challenged is our water system in meeting the growing demand?
 - Are we prepared – from a water rights perspective – to optimally allocate water in increasingly water-scarce basins? What are the strengths and limitations of our existing water rights systems?
 - What is the state of our water infrastructure and capital needs?
 - EPA is undertaking a study on the importance of water to the US economy. What are the costs, economic or otherwise, of not meeting our water infrastructure needs?
 - Is there a smarter / more efficient way of meeting our water needs?
- Pricing and markets
 - Water is indispensable, yet we pay a fraction of what we pay for discretionary goods such as our cable TV. Why is it so difficult to price water and charge a rate which is reflective of the full lifecycle cost of delivering water?
 - Is there a way to price or regulate water that enables it to flow to the highest value-added uses and how do you balance that with water being viewed as a public good?
 - Can an efficient water market develop, much like other commodity markets, which matches supply and demand?
- EPA regulation
 - What are EPA's regulatory priorities relating to water issues and what are you looking to achieve?
 - Is there a one-size-fits-all set of policies given how local water issues are?
 - How much pressure is the shale boom and hydraulic fracturing putting on our water systems? Can you give us an update on where EPA is with its study on fracking's impact on drinking water?
 - EPA is moving ahead with developing regulation under the CWA for cooling water intake structures. Can you discuss why this is important, what this is trying to accomplish, and challenges to implementation?
 - What are the priorities in relation to storm water discharge and wastewater management?
 - EPA is generally charged with regulating water quality rather than water quantity – how might EPA's mandate evolve to address growing issues related to water scarcity?
- Regulatory model

- Much of our water related infrastructure decisions are siloed, when greater efficiencies could be achieved from more integrated water planning. Whether it comes to how to integrate water supply and delivery with wastewater management and recycling, or integrating green infrastructure with grey infrastructure decisions. How do we facilitate this and what is the role of EPA?
- How do we change the water utility model to incentivize conservation and efficiency, without penalizing them from recouping and making a return on their fixed asset costs?

To: Loop, Travis[Loop.Travis@epa.gov]; Penman, Crystal[Penman.Crystal@epa.gov]
From: Kopocis, Ken
Sent: Thur 1/31/2013 11:03:24 PM
Subject: Fw: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)
Speaker Materials - Water Event - Debunking the Myth.docx

Travis, here are the questions. I will review them.
 Crystal, please send Jon the bio and pic (if we have to.)

Ken Kopocis
 Office of Water
 U.S. Environmental Protection Agency
 (202) 564-5700

----- Forwarded by Ken Kopocis/DC/USEPA/US on 01/31/2013 06:01 PM -----

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
To: Ken Kopocis/DC/USEPA/US@EPA
Cc: "Smith, Kevin" <Kevin.M.Smith@gs.com>
Date: 01/31/2013 04:29 PM
Subject: RE: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Hello Ken,

Here are the proposed questions, but I send them to you with this one overarching thought . . . we want you to talk about things that you think make sense to talk about, so please feel free to suggest any changes, etc.

I'm copying Kevin Smith at Goldman Sachs, to keep him in the loop, too.

Would you please ask your assistant to send us your bio and photo for the summit program?

Thanks, and speak with you soon –

Jon

From: Freedman, Jon B (GE Power & Water)
Sent: Wednesday, January 30, 2013 4:39 PM
To: 'Kopocis.Ken@epamail.epa.gov'
Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Hello Ken,

Sorry you have to take such an early train.

I'm boarding a plane in Reno right now, but will get you the questions tomorrow.

Best,

Jon

From: Kopocis.Ken@epamail.epa.gov [mailto:Kopocis.Ken@epamail.epa.gov]
Sent: Wednesday, January 30, 2013 04:35 PM
To: Freedman, Jon B (GE Power & Water)
Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Jon, due to some scheduling issues beyond my control, I will not be arriving in NYC until Friday morning. I am counting on the 5:00 AM Acela being on time.
 When we met, we discussed me getting some questions in advance. How is that coming?
 Thanks.

Ken Kopocis
 Office of Water
 U.S. Environmental Protection Agency
 (202) 564-5700

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
 To: Ken Kopocis/DC/USEPA/US@EPA
 Cc: Crystal Penman/DC/USEPA/US@EPA
 Date: 01/16/2013 03:23 PM
 Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Thanks, Ken. Good point about Monday!

Crystal -- Just let me know a good time on Tuesday, thanks --

Jon

From: Kopocis.Ken@epamail.epa.gov [mailto:Kopocis.Ken@epamail.epa.gov]
Sent: Wednesday, January 16, 2013 03:15 PM
To: Freedman, Jon B (GE Power & Water)
Cc: Penman.Crystal@epamail.epa.gov <Penman.Crystal@epamail.epa.gov>
Subject: RE: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Let's do in person on Tuesday -- there is some big event happening on Monday some of us are attending. I'll ask Crystal to set it up.

Ken Kopocis
 Office of Water
 U.S. Environmental Protection Agency
 (202) 564-5700

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>
 To: Ken Kopocis/DC/USEPA/US@EPA

Date: 01/16/2013 02:06 PM

Subject: RE: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Ken,

I'm going to be in Orlando at a GE leadership meeting on Friday, but I can call you at 12:30, if that's good for you.

Alternatively, I can stop by in person on Monday or Tuesday of next week.

Whatever is best for you, thanks –

Jon

From: Kopocis.Ken@epamail.epa.gov [mailto:Kopocis.Ken@epamail.epa.gov]

Sent: Tuesday, January 15, 2013 6:27 PM

To: Freedman, Jon B (GE Power & Water)

Subject: Re: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Thanks, Jon.

We should chat. Would 12:30 on Friday work for you ?

Ken Kopocis
Office of Water
U.S. Environmental Protection Agency
(202) 564-5700

From: "Freedman, Jon B (GE Power & Water)" <jon.freedman@ge.com>

To: Ken Kopocis/DC/USEPA/US@EPA

Date: 01/15/2013 12:40 PM

Subject: FW: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Hi Ken,

Very pleased that you're going to join us as a keynote speaker.

We'll be hosting a small dinner the night before, and I hope you'll join us for that, too.

I'd be happy to give you a call at a good time for you – or even stop by your office – to provide more background.

You can register using the link below.

Best,

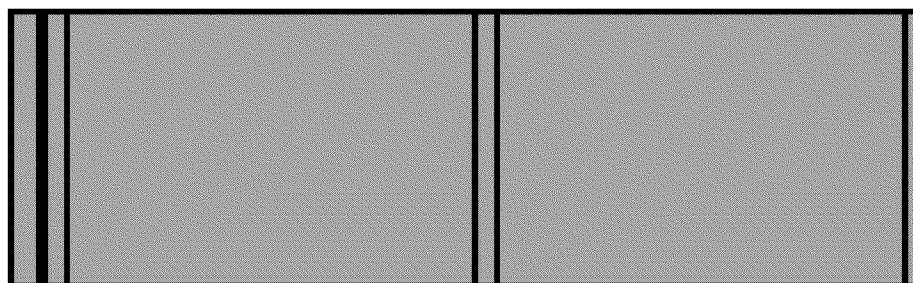
Jon

From: GoldmanSachsCenterforEnvironmentalMarkets@ny.email.gs.com
[mailto:GoldmanSachsCenterforEnvironmentalMarkets@ny.email.gs.com]

Sent: Tuesday, January 15, 2013 12:16 PM

Subject: Invitation to Register: Water: Emerging Risks and Opportunities Summit (Feb 8, 2013)

Invitation to
Register



Water: Emerging Risks and Opportunities Summit

Please join us for the

Water: Emerging Risks and Opportunities
co-hosted by **GE Power & Water, Goldman Sachs and the World Economic Forum**
Friday, February 8, 2013
Goldman Sachs
200 West Street
New York, NY

This unique summit will bring key stakeholders together to discuss the increasing importance of water of technologies and infrastructure needs, role of public vs. private sector capital, and a view on policy

Select confirmed speakers include:

- **Leigh Abramson** – Managing Director, MetalMark Capital
- **David Arison** – Director of Global Business Relations, Miya
- **Don Correll** – Former President & CEO of American Water Works, Former Chairman & CEO of United Water Res
- **Matthew J. Diserio** – Co-Founder and President, Water Asset Management
- **Paul Goodfellow** – VP Unconventional, Shell
- **Virginia Grebbien** – President of Water and Infrastructure, Parsons Corporation
- **Caswell Holloway** – Deputy Mayor for Operations NYC, Previously Commissioner of NYC Department of Environ
- **Jeff Kightlinger** – General Manager, Metropolitan Water District of Southern California
- **Ken Kopocis** – Senior Advisor, Nominated EPA Assistant Administrator, Office of Water
- **Heiner Markhoff** – President & CEO, GE Power & Water, Water & Process Technologies
- **Gretchen McClain** – President & CEO, Xylem Inc
- **Pat Mulroy** – General Manager, Southern Nevada Water Authority
- **Sandy Stash** – Global SVP, Health, Safety, Security, Environment and Operational Assurance, Talisman Energy
- **Andrew Steer** – President & CEO, World Resources Institute
- **David Sunding** – Professor, College of Natural Resources at UC Berkeley / Co-Director, Berkeley Water Center

Please visit the summit [website](#) for complete details and registration information. We encourage you to questions please contact Katie Criqui at 1-212-902-3635 or katie.criqui@gs.com.

** We estimate that the cost per person for this event (continental breakfast and box lunch) to be \$37. If you are a Restricted Recipient or otherwise believe contact the event organizer prior to registration.*

--	--	--	--	--



***** ATTACHMENT NOT DELIVERED *****

This Email message contained an attachment named

image001.jpg

which may be a computer program. This attached computer program could contain a computer virus which could cause harm to EPA's computers, network, and data. The attachment has been deleted.

This was done to limit the distribution of computer viruses introduced into the EPA network. EPA is deleting all computer program attachments sent from the Internet into the agency via Email.

If the message sender is known and the attachment was legitimate, you should contact the sender and request that they rename the file name extension and resend the Email with the renamed attachment. After receiving the revised Email, containing the renamed attachment, you can rename the file extension to its correct name.

For further information, please contact the EPA Call Center at (866) 411-4EPA (4372). The TDD number is (866) 489-4900.

***** ATTACHMENT NOT DELIVERED *****

***** ATTACHMENT NOT DELIVERED

This Email message contained an attachment named

image001.jpg

which may be a computer program. This attached computer program could

contain a computer virus which could cause harm to EPA's computers,

network, and data. The attachment has been deleted.

This was done to limit the distribution of computer viruses introduced

into the EPA network. EPA is deleting all computer program attachments

sent from the Internet into the agency via Email.

If the message sender is known and the attachment was legitimate, you

should contact the sender and request that they rename the file name

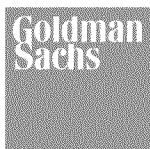
extension and resend the Email with the renamed attachment. After

receiving the revised Email, containing the renamed attachment, you can

rename the file extension to its correct name.

For further information, please contact the EPA Call Center at
(866) 411-4EPA (4372). The TDD number is (866) 489-4900.

***** ATTACHMENT NOT DELIVERED *****



Water: Emerging Risks and Opportunities Summit

Agenda / Event Logistics

#H2OSummit

Date: Friday, 8 April, 2013

Time: 8:30 a.m. – 4:15 p.m. EST

Location: 200 West St, New York, NY 10282

Contact: Kevin Smith, EMG (New York) – 212-357-9750

David Sperry, EMG (New York) – 212-357-8855

Katie Criqui – Events Team (New York) – 212-902-3635

Event Overview:

A unique event to bring key stakeholders together to discuss the increasing importance of water issues, including the nexus between water and energy, scale-up of technologies and infrastructure needs, role of public vs. private sector capital, and a view on policy initiatives related to water. The event will feature C-level executives and thought leaders from a wide range of large multinational corporations, influential VC / PE firms, non-government organizations, as well as federal, state and municipal government participants.

Proposed Agenda – subject to change

9:00 – 9:15am	Welcome and Introduction
9:15 – 10:00am	Water – Debunking The Myth
10:00 – 10:30am	Policy – Opening the Floodgates
10:30 – 10:45am	Break
10:45 – 11:45am	Water and Energy – Friend or Foe
11:45 – 12:15pm	Pricing Water – Journey to Efficiency
12:15 – 12:30pm	Break for Lunch Setup
12:30 – 1:15pm	Water Risk Management – Emerging Tools (Demonstration over Lunch)
1:15 – 1:30pm	Break for Lunch Clean-up
1:30 – 2:30pm	Technology – Challenge of Scale-up
2:30 – 3:30pm	Capital flow – Quenching the Thirst
3:30 – 4:00pm	Water Infrastructure – The Local Perspective
4:00 – 4:15pm	Closing Remarks

Water – Debunking the Myth

9:15 – 10:00 a.m.

Speakers

Ken Kopocis – Senior Advisor, Nominated EPA Assistant Administrator for Water

David Sunding – Professor, UC Berkley / Principal, Brattle Group

Moderator

Kyung-Ah Park – Head of Environmental Markets Group, Goldman Sachs

Format

- Fireside Chat
 - Moderator opening and introduction to speakers (3 minutes)
 - Moderator Q&A (30 minutes)
 - Q&A from audience (10 minutes)
 - Conclude and thank you to panelists (2 minutes)
- Speakers have been provided a list of potential questions, which they will answer as prompted by the moderator. The questions listed are meant to serve as a guide for the dialogue, but should not limit the flow of the discussion — the more conversational, the better.

Potential Questions

- General Questions
 - Talk about the competing demand drivers for water. How challenged is our water system in meeting the growing demand?
 - Are we prepared – from a water rights perspective – to optimally allocate water in increasingly water-scarce basins? What are the strengths and limitations of our existing water rights systems?
 - What is the state of our water infrastructure and capital needs?
 - EPA is undertaking a study on the importance of water to the US economy. What are the costs, economic or otherwise, of not meeting our water infrastructure needs?
 - Is there a smarter / more efficient way of meeting our water needs?
- Pricing and markets
 - Water is indispensable, yet we pay a fraction of what we pay for discretionary goods such as our cable TV. Why is it so difficult to price water and charge a rate which is reflective of the full lifecycle cost of delivering water?
 - Is there a way to price or regulate water that enables it to flow to the highest value-added uses and how do you balance that with water being viewed as a public good?
 - Can an efficient water market develop, much like other commodity markets, which matches supply and demand?
- EPA regulation
 - What are EPA's regulatory priorities relating to water issues and what are you looking to achieve?
 - Is there a one-size-fits-all set of policies given how local water issues are?
 - How much pressure is the shale boom and hydraulic fracturing putting on our water systems? Can you give us an update on where EPA is with its study on fracking's impact on drinking water?
 - EPA is moving ahead with developing regulation under the CWA for cooling water intake structures. Can you discuss why this is important, what this is trying to accomplish, and challenges to implementation?
 - What are the priorities in relation to storm water discharge and wastewater management?
 - EPA is generally charged with regulating water quality rather than water quantity – how might EPA's mandate evolve to address growing issues related to water scarcity?
- Regulatory model

- Much of our water related infrastructure decisions are siloed, when greater efficiencies could be achieved from more integrated water planning. Whether it comes to how to integrate water supply and delivery with wastewater management and recycling, or integrating green infrastructure with grey infrastructure decisions. How do we facilitate this and what is the role of EPA?
- How do we change the water utility model to incentivize conservation and efficiency, without penalizing them from recouping and making a return on their fixed asset costs?

To: Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]
From: Kopocis, Ken
Sent: Sat 6/1/2013 12:39:51 PM
Subject: RE: Pre-Brief on Acting Administrator's Meeting with Dominion - Monday, 10am, ARN 3412

From: Gilinsky, Ellen
 Sent: Saturday, June 01, 2013 7:20 AM
 To: Kopocis, Ken
 Subject: Re: Pre-Brief on Acting Administrator's Meeting with Dominion - Monday, 10am, ARN 3412

Bob p is going to richmond to meet with Tom Farrell I am assuming on 316b but also wondering if steam electric will come up

From: Kopocis, Ken
 Sent: Saturday, June 01, 2013 12:32:08 AM
 To: Gilinsky, Ellen
 Subject: Re: Pre-Brief on Acting Administrator's Meeting with Dominion - Monday, 10am, ARN 3412

What is this meeting about?

From: Gilinsky, Ellen
 Sent: Friday, May 31, 2013 5:26:46 PM
 To: Robison, Ryan; Sussman, Bob; Vaught, Laura; Goo, Michael; Stoner, Nancy; Garbow, Avi; Kopocis, Ken
 Cc: Maddox, Donald; Kime, Robin; Penman, Crystal; Poole, Jacqueline; Patrick, Monique; Herckis, Arian; Kukla, Alison
 Subject: Re: Pre-Brief on Acting Administrator's Meeting with Dominion - Monday, 10am, ARN 3412

I will be there. Nancy is on furlough. Ken should be available so am copying him here

From: Robison, Ryan
 Sent: Friday, May 31, 2013 4:48:56 PM
 To: Sussman, Bob; Vaught, Laura; Goo, Michael; Stoner, Nancy; Gilinsky, Ellen; Garbow, Avi
 Cc: Maddox, Donald; Kime, Robin; Penman, Crystal; Poole, Jacqueline; Patrick, Monique; Herckis, Arian; Kukla, Alison; Robison, Ryan
 Subject: Pre-Brief on Acting Administrator's Meeting with Dominion - Monday, 10am, ARN 3412

Good Afternoon,

Due to tech problems with outlook calendar my office cannot send you a scheduler notice regarding this meeting on Monday morning. Please make note. I will try again this weekend, or send a reminder Monday morning.

This meeting will be:

Monday, June 3rd
 10am

Requested by Bob Sussman

Staff:
 Bob Sussman (OA)
 Laura Vaught (OCIR)
 Nancy Stoner, Ellen Gilinsky (OW)

Avi Garbow (OGC)
Michael Goo (OP)

Please keep in mind that the ACTUAL meeting with Dominion will be on Monday at 4pm in Richmond, VA. E-mail me if you have any concerns.

Thanks,
Ryan

Ryan M. Robison
Deputy Director of Scheduling
Office of the Administrator | US EPA
robison.ryan@epa.gov
202-564-2856 Office
202-591-5593 Cell

ÿ

To: Beauvais, Joel[Beauvais.Joel@epa.gov]; Kopocis, Ken[Kopocis.Ken@epa.gov]
From: Kopocis, Ken
Sent: Mon 1/6/2014 10:22:05 PM
Subject: 316(b) views

316(b) views

Beauvais, Joel
Special Coucsl To The Office Of
Administrator , OGC
Email: beauvais.joel@epa.gov

IM: beauvais.joel@epa.gov

Microsoft Lync 2010

To: Prather, Larry J HQ02[Larry.J.Prather@usace.army.mil]
From: Prather, Larry J HQ02
Sent: Fri 4/26/2013 9:02:26 PM
Subject: Emailing: CQ CONGRESSIONAL TRANSCRIPTS Senate Hearing Drought 25 April 2013 (UNCLASSIFIED)
CQ CONGRESSIONAL TRANSCRIPTS Senate Hearing Drought 25 April 2013.docx

Classification: UNCLASSIFIED
Caveats: NONE

CQ CONGRESSIONAL TRANSCRIPTS

Congressional Hearings

April 25, 2013 - Final

Senate Energy and Natural Resources Committee Holds Hearing on Drought, Energy and Water Management

LIST OF PANEL MEMBERS AND WITNESSES

WYDEN:

The committee will come to order.

Senator Murkowski is trying to juggle. This is particularly a hectic day as you know with activity on the floor. Lots of committees. She urged that we start. We'll have her opening statement when she gets here.

My friend from Nevada is going to introduce a witness who is especially important to him after the opening statements and we'll proceed at this time.

This morning, we're going to look at drought and the impacts to the energy and water sectors.

Water is life, and without access to water, the world as we know it, ceases to exist, or at least to run effectively.

Last year was the warmest on record. And combined with the exceptionally

dry conditions, severe drought affected over 60 percent of our country. Again, that was 60 percent of the country. The cost of the damages associated with last year's drought exceeded \$35 billion. That is a very substantial hit for our economy to take at a time when we have huge economic challenges ahead.

In addition to last year's drought, the country is seeing increasing numbers of extreme weather events. And unfortunately, it seems the drought has almost become part of the norm.

One reason the committee is focusing on this topic today is to better understand how the recent drought conditions fit into the overall picture of climate change and if there are lessons to be learned to minimize the impact in the current climate and for the future.

Drought impacts everything from farmers to power plant operations and everything in between. Water is a critical resource and yet, so often, it seems to almost be treated as an afterthought.

In my home state of Oregon, Oregonians are seeing severe drought in the Klamath region. The Bureau of Reclamation has told me that the Klamath Basin has experienced the second driest January through March on record. This is a dire situation. This area is one of our thorniest watersheds. This caused the governor of my state in Klamath County to issue drought declarations last week and, in effect, this has become a symbol of the debate about how to deal with droughts, and you saw that in the important Wall Street journal article that recently ran on drought really spotlighting what was going on in the Klamath Basin.

The Bureau of Reclamation is going to be a key player in the work to address drought conditions and solve the long-term resource disputes in the Klamath and other such places across the West. And we have always worked with the bureau in a bi-partisan way and we are going to continue to work with them in that fashion to meet our goals.

Water is also a critical resource for generating electricity. It's obviously needed for generating hydro power, but it's also critical for cooling in many other types of thermoelectric generation like nuclear, biomass, and coal.

For these applications, water must not only be sufficiently available in quantities, but also be cool enough to allow the plants to run safely and effectively. That means that climate change poses a double threat 'cause some of these facilities potentially threatening both water availability and sufficiently cool intake water.

Recent history has demonstrated the vulnerability of the power sector to both drought and high temperature. In 2001, for example, severe drought in California and the Pacific Northwest resulted in significantly reduced hydroelectric generation causing tight electricity supplies and high prices throughout the West. That drought was estimated to have an economic impact of between \$2.5 and \$6 billion.

High temperatures have also curtailed generation. In 2007, the Tennessee Valley Authority had to temporarily shut down its Brown's Ferry Nuclear Plant because the intake water temperatures were too high. In 2012, the Millstone Nuclear Plant that powers half of Connecticut had to take 40 percent of its capacity offline for almost two weeks because the cooling water it was getting from Long Island Sound was too warm. In the same year, the Braidwood Nuclear Plant in Illinois had to get an exemption to take -- to use intake water that was a 102 degrees instead of shutting down during a heat wave.

The situation in Texas may demonstrate both the concerns and some of the solutions. During the extreme drought conditions of the summer of 2011, Texas made it through with only one power plant curtailing. They did it because of extraordinary conservation efforts by customers and they were also helped by having a lot of wind-energy on their system that doesn't require any water at all. They also bought power on the spot market, with prices hitting an incredible \$3,000 per megawatt-hour, so consumers definitely felt the impact in their power bills.

The following summer was also hot and dry in Texas, but caused less disruption thanks to the steps that I have mentioned, that their utilities had chosen to adopt. An important goal of this hearing is to understand both the risks to the power sector and the strategies for mitigating those risks.

Senator Murkowski, we're glad that you have navigated traffic and the logistics so you could be with us. Let's have your opening statement and then Senator Heller will introduce a witness that is important to him.

And also, after Senator Heller has done that, Senator Franken and Senator Manchin have also asked to make opening statements and, given the importance of this topic, I think we should just wave our rules and we're going all out now.

MURKOWSKI:

Good.

WYDEN:

All right, Senator Murkowski. And then, in fact, we'll go -- Senator Murkowski, Senator Heller for the introductions. Senator Franken and Senator Manchin.

MURKOWSKI:

Mr. Chairman, thank you. And I appreciate the opportunity for us as a committee to focus on water. We talked a lot about energy and energy technologies and all the great things that are going to move us to our new energy future. But I think, at the end of the day, we have to remember that everything begins with water.

And so, how we address our water issues is key. And if we don't appreciate, if we fail to appreciate the nexus between energy and water, that's really to our detriment.

In my Energy 2020 proposal that I've made available to all of my colleagues, we've got one little chapter on the energy water nexus. And I think that this is critical for us to review and I appreciate the opportunity to do so.

I think we acknowledge that energy and water resources are the foundation of our nation's economy. They're essential to our nation's future in the international security. All forms of energy production, energy distribution, fuel extraction, and fuel refinement require water or affect water resources in

some way. Every aspect of extraction, treatment, conveyance, and use of water as well as the treatment of waste water is dependent on sufficient and reliable energy. So it goes both ways.

Moreover, energy used by these systems is significantly regionally which is important to understand as we look at the impacts of drought on a regional and a local level.

To improve the fundamental relationship between energy use and water use, we need a lot more information, both regarding water and energy.

Specifically, what I would like to do, and I outlined some of these in my Energy 2020, is to identify all existing federal research authorities and activities that are currently authorized to address the interdependency of energy and water systems. But that, perhaps, at this time, are not actively doing so.

Also, ensure that DOE and the DOI have the authority to facilitate multi-agency efforts to develop energy and water independency R&D. Further, to ensure that the DOE and DOI develop planning tools to avoid multiuse water conflicts and to ensure that water and energy interdependencies are coordinated.

And then finally, to authorize a coordinated research investment by multiple federal agencies in the development and implementation of certain energy water technologies. These technologies should address the interdependency of energy and water systems and multipurpose water and energy system planning.

So again, Mr. Chairman, I appreciate the focus that the committee is giving this. I thank the government witnesses for appearing before us today. I hope that we can proceed in the near future with legislation to address the issues associated with water management and energy and fuel production. And I look forward to hearing from the panel this morning.

WYDEN:

Thank you, Senator Murkowski. And let me just say, having looked at your report a number of times, I think particularly your RND recommendations in

this area really hold out a lot of promise for bi-partisan cooperation, and we're going to work together on that.

Senator Heller is going to do an introduction and then my colleagues to make opening statements.

HELLER:

Terrific. Mr. Chairman, thank you. And thanks for allowing a topic that I agree with the Ranking Member to be critically important. Water and energy, I can't think of two more important issues facing us.

It's my pleasure to welcome and introduce to you Nevada's Pat Mulroy. I want to note, Mr. Chairman, that I didn't say Pat Mulroy from Nevada. She is Nevada's, Pat Mulroy. We're very possessive because of her efforts and hard work. And we're grateful for the work she's done over the last couple of decades on behalf of the Southern Nevada Water Authority.

Senator Reid and myself, we both share a very warm friendships and we both appreciate the relationships we've had over the last couple of decades.

Pat is the General Manager of the Southern Nevada Water Authority in the Las Vegas Valley Water District. Let me assure you she has stellar reputation that precedes her.

For over two decades, Pat has had the incredible challenging job of managing the water resources in Southern Nevada. She's been at the helm during the incredible land boom that ushered in the turn of last century and shepherded the Water Authority during this challenging economic times. The gravity of her job has been compounded by the scarcity of water in Southern Nevada.

As Pat will explain in her testimony, an over appropriated and drought-stricken Colorado River is the primary source of water for Southern Nevadans. Pat has implemented innovative water efficiencies and conservation measures, struck agreements with neighboring states to maximize the availability and flexibility as Nevada's share of the Colorado River, and definitely negotiated treaties with Mexico. And all the while, the taps have kept flowing in the Las Vegas Valley.

Pat is a leader in her field, well respected by her peers. She's the first woman president of the association, Metropolitan Water Agencies, serves on the board of directors for the National Water Resources Association and the Water Resource Foundation.

I know she'll share with you some of the works she has been involved in and her perspective, and I want to thank her again for being here today.

I look forward to her testimonies and, of course, to all that are here today. Thank you very much for taking time, and those that are in the audience listening to the testimony. Thank you.

WYDEN:

Thank you Senator Heller, and we know is more Ms. Mulroy is important you and Senator Reid, and we're glad she's here. Senator Franken.

FRANKEN:

Chairman Wyden, Ranking Member Murkowski, thank you for holding this hearing. I think it's an extremely important topic that affects so many sectors of our economy, and I want to commend you for giving it the attention that it deserves.

As we talk about drought, I think it's important that we talk about climate change, which we know we is going to result on our nation facing more extreme weather conditions.

Last year was a remarkable year. 2012 was the hottest year on record in the continental United States, beating the previous record by a full degree, which is actually alarming and amazing.

The impacts of the 2012 drought were felt throughout the country and, in fact, more than 70 percent of counties in our country were considered disaster areas.

We are going to hear today about the effects of drought and water shortages on the energy sector.

Last year, we saw serious effects on the Ag sector. Secretary Vilsack estimated the impact to be around \$50 to \$60 billion.

Shipping on the Mississippi River was also seriously impacted. In fact, water levels dropped to the point that it seriously interfered with our ability to transport agricultural goods to market. The waters got so low that shippers had to send barges down to Mississippi half full with soy beans, for example, which makes our beans less competitive with Brazilian beans. In Minnesota, we export about a third of our soy bean crop. And so this is serious issue for us.

Then there's the issue of wildfires. We've heard testimony here when Chief Tidwell testified before the committee last year. I asked him about the link between forest fires and climate change. He told us that we're seeing longer fire seasons on average by more than 30 days. Wildfires are larger, have a more area, and they're more intense.

Chief Tidwell also told us that scientist at the Forest Service thought that climate change was increasing the size and intensity of wild fires and extending their season. These are very serious issues, and so I would again like to thank the chairman and the ranking member for holding this hearing.

I really do believe that we need to come together, democrats and republicans, to hold a serious conversation about climate change and its effects, I think the droughts are clearly one of those effects. And this is -- hearing goes a long way to begin that conversation.

Thank you.

WYDEN:

Senator Manchin. Thank you Senator Franken.

And as I've indicated before, nobody on this committee has put in more time on this climate change issue than you and Senator Sanders, so we are really happy to have two champions -- consistent champions on this.

Senator Manchin, welcome.

MANCHIN:

Thank you Mr. Chairman, Madame, Vice chairman. Let me just make sure that I'm not a scientist but I do think that the climate change is a world phenomenon, not just in the United States. I know we're trying to beat ourselves up quite a bit that we're totally responsible. But it is a world contributor, if you will.

I'd like to start by acknowledging how lucky we've been in our country to have a relative abundance of fresh and clean drinking water as one of those things that I think all of us can take for granted until it's taken away from us.

Some of the good people of my state of West Virginia have that happened to them last summer. And we do have an abundance of good water. But when we were out of water for weeks due to the derecho storm, and you would not think about that, none of us thought about that, but it knocked out all of our power and we could not have our plants up and running. So people went with weeks without water. And it had a tremendous effect on them and it surely brings the issues like availability of water to the forefront. And it has in my state unlike never before.

There are two types of water usage that are often discussed. We have water withdrawal and then we have water consumption. It's important to understand the difference because a lot of our power plants in West Virginia has an awful lot of power plants. Our energy users withdraw a lot of water but they don't consume that much. And what I mean by that, people think, "Well, my goodness, if we shut the power plant down, we wouldn't use all this water." And we don't consume that much water. We withdraw a lot but we only consume about three percent of what we withdraw.

So our biggest consumer of water is irrigation for agriculture. Agriculture, historically, has consumed about 81 percent the water we use everyday. And some were around 3 to 4 billion gallons of water a day, and that's 27 times the water consumption as much as any power plants, 27 times.

I just want to point that out to keep it in perspective because it seems to me that we have to look at all the options which are on the table here. And maybe there are some options in improving the ways we irrigate land.

But saving water is important and we need to figure out how to do that. And electric power is at the center of that question. We're looking right now at using mine water -- recycled mine water which we think is a very good use of a resource without withdrawing.

We also know that when we save water, we save energy. And when you save water, you save energy because you don't have to pump it, move it, or do all the things, and that's another energy water nexus that I think we have to look into.

So, I think there's many things that go into all of this. And I just hope that we're broad enough to look at everything.

Thank you

WYDEN:

Thank you, Senator Manchin. And we, in fact, are going to do exactly what you said in conclusion to look at everything. And your subcommittee, in fact, kind of touches almost everything. You have forest, and of course they are dramatically affected by droughts. And Senator Merkley and I know this so well because of the devastating effects of some of the droughts we saw in Eastern Oregon and the implications for fires, and then, of course, you have industry with jurisdictions over mining. So you have both ends of it. We're going to work with you.

Senator Sanders.

SANDERS:

Thank you, Mr. Chairman. I want to apologize to our panelist. I'm going to have to run of this in our security meeting.

WYDEN:

I understand.

SANDERS:

I just want to concur with what Senator Franken said. Drought is one -- one of the manifestations that we are seeing in terms of climate change. We're seeing flooding, we're seeing extreme weather disturbances, we're seeing heat waves that are taking people's lives all over the world.

And I have to say, Mr. Chairman, I think when history looks back at this particular moment, our kids and our grandchildren, our great- grandchildren are going to ask us where were we. Why were we not moving aggressively to prevent the problems that exist today that we know only can going to get worse in the future?

So this is one of those very important issues that has not gotten the attention that it deserves. And I look forward to working with you and Senator Murkowski on addressing it.

Thank you.

WYDEN:

We're sure going to try and change that, Senator Sanders, and thank you for all your leadership.

We're going to go to our witnesses now. You can see the enormous interest here in the panel. We also have the good fortune of having Senator Merkley who is not a member of the committee but a member of Environment and Public Works and has great expertise in experience in this area also to be part of this.

So we're going to look forward to all of the views that are going to be expressed this morning. Let's begin with Michael L. Connor.

Mr. Connor, welcome.

CONNOR:

Thank you, Mr. Chairman.

Mr. Chairman, members of the committee, I'm Mike Connor, Commissioner of the Bureau of Reclamation. I'm pleased to provide testimony regarding the

effects of drought on energy and water management.

And on a personal level, it's always a pleasure as well as a privilege to appear before this committee and to work with my former colleagues and the committee staff. It's also an honor to be here with my esteemed colleagues and experts in the field of water resources.

This spring is highlighted NOAA's testimony, much of the West, California, the Rocky Mountains, the Southwest, and the Great Plains remain on the state of moderate to extreme drought. Reclamation's infrastructure anticipates the reality of an arid western climate. It is why Reclamation was created and it's why our projects were built.

Recognizing the drought can never be eliminated and they become more common in the future, Reclamation now leverages its existing projects alongside new initiatives and enhanced water management that helps guard against and mitigate the devastating effects of drought.

My statement today will summarize the activities and the results that we're achieving.

First, in area water operations. Reclamation must constantly work with our contractors to adjust operation plans to mitigate the impacts of water shortages. In California Central Valley, January through March was the driest on record and April is proving no relief.

We are currently taking a number of actions within the CVP to supplement low contract allocations in certain areas of the project. These actions include rescheduling available storage, acquiring supplies from willing sellers, diversifying supplies to wildlife refugees, and constructing a new inter-tie between the CVP and the state water project providing tens of thousands of acre-feet of additional water supply to the project.

The second example concerns that Colorado River. Drought has been normal over much of the past 10 to 12 years. Accordingly, a number of operational agreements have been executed during this time to incentivise conservation and increase the amount of water stored they need to avoid or at least delay shortages in the rural Colorado River basin.

The most recent operational agreement is Minute 319 to the 1944 Colorado River Treaty, a historic arrangement between the United States and Mexico that was signed last November.

Another example includes the Klamath River basin in Oregon. Once again, serious drought conditions are plaguing this basin in 2013. The low water year pits endangered fish versus endangered fish as one species need more water in upper Klamath lake, whereas the other species needs sufficient river flows based on releases from that same lake.

The situation also pits the needs of both sets of fish species against the agricultural community in the basin. Reclamation has worked with the U.S. Fish and Wildlife Service and the National Marine Fishery Service to develop a new operational plan this year intended to maintain protections for fish while allowing irrigation operations to proceed during this year.

A second area I want to talk about is WaterSMART. The WaterSMART program provides the foundation for Reclamation's efforts to achieve a sustainable water supply. Completed WaterSMART grant projects along with other conservation activities are saving an estimated 616,000 acre-feet per year, enough water for more than 2.4 million people. And our current goal is to save 790,000 acre-feet per year by the end of 2014.

About \$230 million in federal funding has also been provided for the Title 16 Water Reuse Projects since 2009. Eight projects had finished constructions since that time and eight others are expected to be completed this year.

Project sponsors deliver about 295,000 acre-feet of recycled water in 2012 providing a durable drought-resistance supply. WaterSMART also acknowledges the nexus between energy and water use.

In addition to saving water over the last three years, WaterSMART projects across the West have conserved 40 million kilowatt-hours of electricity annually.

Third, storage opportunities. It's reasonable to ask what role new water storage can play in insulating our country from drought, in the short or long term. Reclamation still studies, constructs, and maintains large surface

storage or other water supply projects when authorized by Congress.

As mentioned in my written statement, under WaterSMART program, there are 17 basin studies complete or underway across Reclamation on major river basins in the West. As part of comprehensive assessment of water supply and demand, all of these major basins studies will consider potentially in the store it need -- any the storage needs.

Additionally, within the last few years, Reclamation has completed or helped facilitate seven new storage projects that added additional water supplies in critical water short basins, Ridges Basin Dam in the Animas River system, Brock Reservoir on the Lower Colorado River water which regulates flows and conserves water in Lake Mead, and the expansion of the Los Vaqueros Reservoir in California's Bay-Delta Region which is perennially water-short.

Forth, hydropower impacts. Drought impacts hydropower production just as much as it affects water supply. But in simple terms, reduced storage equates to less energy.

Since 2001, reduced water availability west-wide has resulted in 11 percent less average energy production from Reclamation's facilities. In the Colorado River's system, it's a 16 percent reduction.

Reclamation has responded to these issues by installing more efficient turbines, initiating an optimization program and promoting new units on existing facilities. Overall, the last four years, Reclamation has worked collaboratively to increase generating capacity at our facilities by over a 110 megawatts through turbine upgrades in new units.

Fifth and finally, Reclamation's legislative authority for drought relief. I stated in our testimony before the committee last week, the Reclamation Emergency Drought Relief Act is an important tool with in a comprehensive strategy to prepare for and respond to drought. As the committee is aware, the authority for Titles I and III of the Act expired at the end of fiscal year 2012. Our 2014 budget seeks an extension of this authority through 2017.

In conclusion, I would simply note that the problem of drought is best addressed proactively through collaborative planning, flexible operating

agreements, and targeted investments that promote more efficient water management and sustainable hydropower production.

Mr. Chairman, I'm ready for questions at the appropriate time.

WYDEN:

Very good. Thank you.

Let's have our next witness, Doctor Roger Pulwarty with NOAA. Great.

PULWARTY:

Good morning, Chairman Wyden, Ranking Member Murkowski, and members of the committee. My name is Roger Pulwarty. I'm the Director of the National Integrated Drought Information System at NOAA.

Thank you for inviting me to speak with you today about drought and its impacts.

Drought is part of the American experience from the still vivid events of the '30s and the '50s to the present 2012, and it one of the driest years on record with the most extensive conditions since 1934. Impacts crossed a broad spectrum from energy and agriculture to recreation and wildfires costing \$35 billion in agriculture alone not counting impacts to recreation and other sectors.

Low river levels threaten commerce on the Mississippi shipping lanes and reduced hydropower generation on the Missouri. Today, drought conditions persist for most of the West.

Recent droughts demonstrate how dry conditions on high temperatures can affect the energy sectors through its dependence on water resources and provide lessons as we go into the future. Specific examples of impacts drawn from the NIDIS partners across the country follow:

In 2007, during the Southeast drought, power plants from Atlanta to Raleigh cut back water use. North Carolina customers faced blackouts as water shortages forced Duke Energy to cut its output.

This severe drought lasting through 2009 threaten the cooling water supplies of 24 of the nation's 104 nuclear power reactors including the well-known Brown's Ferry Nuclear Plant.

The severe 2011 drought in Texas and across the South also reduced power plant cooling reservoirs to record low levels with the associated heat concurrently increasing peak electricity demand. The manager of the Aspen Petroleum Pipeline in South Texas placed several request with NOAA for short and medium-ranged seasonal temperature updates to help inform his company's decisions about energy production.

Drought impacts persist over multiple years.

In California, over 2001 to 2011, the ratio of hydropower to total generation fluctuated between 12 and 22 percent, at 10 percent variation completely dependent on drought conditions.

The Colorado Basin, as was just mentioned, is undergoing the second driest 12-year period on record. The Western Area Power Administration informed us that they've been forced to add a surcharge to customer bills to pay for hydropower losses and to make up for alternative power purchases.

These events also highlight the potential benefits of climate and weather information the managing risk of the water interface. NOAA and its partners are developing weather and climate information to support water and energy sectors in the southwest including how seasonal and year to year climate affects generation of power and the reliability of water supply.

As I look ahead, we know that the physical drivers of drought in the U.S. are linked to sea surface temperatures in the tropical Pacific and Atlantic oceans together with local land conditions on weather.

Important features of the 2012 drought included the rapid expansion of dry conditions from 28 percent in the U.S. in May to over 60 percent by July, what we now term a flash drought. 2012 was also the warmest year on record. High temperatures have been shown to exacerbate drought conditions in the past. And in some regions, droughts are expected to be more severe or prolonged with increasing temperatures.

During the past two months, conditions have improved across some of last year's intense drought areas in the north central plains, the upper Mississippi Valley and the southeast. However, drought persistence on new development as well as above normal temperatures are forecast for west and south Texas. Several basins in the West are now below 50 percent of normal with some actually below 25 percent. California and Oregon are experiencing their driest and third driest springs respectively on record, and we are forecasting little or no prospects for improvements after April.

Recent snows in the mid Rockies have brought watersheds above 85 percent on the eastern section of the basin, but with snowpack still above 60 -- only above 60 percent on the San Juan and southern Rockies, including the Rio Grande head waters. Great Lake water levels are forecast to remain well below long-term averages, while persistence and development of drought are anticipated for the Hawaiian Islands.

Some improvements has forecast for north central Alaska where mountain snowpack was 50 to 75 percent as of the first of March. The National Drought Outlook for the next three months developed by NIDIS and its interagency and state partners has provide us as an appendix to this testimony.

In December 2012, NIDIS drew on its federal partners and state collaborators, USDA, Interior, the Corps of Engineers, several Governors' Associations to convene a National Drought Forum.

The forum highlighted the need to increase public awareness of drought, to increase technical assistance for impacted communities, and also to ensure support for sustained monitoring and data collection critical for effective drought response such as the NRCS, SNOWpack TELelemetry sites, the USGS stream gage, and water census.

These activities will build under Department of Commerce-USDA MOU signed in December 12. They will also build upon existing successful partnerships such as the climate and water working group led by the Bureau of Reclamation with NOAA, the Corps of Engineers and other partners to bring together water managers and scientists.

In addition, the Western Water Federal Support Team, representing 12 federal agencies, was established in 2008 to support the Western States Water Council and the Western Governors in coordinating federal activities.

To help the nation's energy resilience to drought, NOAA will work with its partners to improve the regional outlooks for weather and climate conditions and potential impacts on critical sectors, understand which energy sources and plants are in particular drought sensitive locations, and the links between regional climate variability and hydrologic processes such as groundwater recharge that can help support economic activities over the long term. Engagement among federal agencies and nonfederal partners is critical, and NIDIS has played a role in leading those.

Information in this testimony is drawn from NIDIS and its many federal states tribal and private partners, including NOAA centers such as the Physical Sciences Division, the River Forecast Centers, the National Drought Mitigation Center at the University of Nebraska in Lincoln, the U.S. Corp of Engineers, WaterSMART, the Water Census, the Western Governor's Associations and state climatologists.

Thank you for the opportunity to speak with you today.

WYDEN:

Thank you very much, Doctor. Welcome Ms. Mulroy. Welcome again since Dean Heller is giving you the first one.

MULROY:

Thank you, Senator, Chairman Wyden, Senator Murkowski, members of the committee, I appreciate this opportunity to testify on this very important topic. And I'd like to take this opportunity to thank Senator Heller for his kind welcome and assure him that we, in Nevada, know how fortunate we are that he is representing our interest back here in Washington D.C.

My name is Patricia Mulroy and I am the General Manager of the southern Nevada Water Authority, Lead Negotiator for the state of Nevada, and all interstate and international matters on the Colorado River.

I'm here today on behalf of the water utilities throughout the United States since I'm currently President of the Association of Metropolitan Water Agencies and a Trustee of the Water Research Foundation.

Around the world, water utilities are finding themselves on the frontline of extreme weather events. The effects of a severe and prolonged drought have been particularly apparent in the desert southwest especially in southern Nevada.

In 2002, after only two years of the now 13-year drought, we went from having a reliable 50-year water plant to facing the reality of immediate severe and debilitating shortages.

My experience reflects the challenges facing the American southwest where the flows of the Colorado River support more than 30 million people and irrigate about 15 percent of the nation's crops.

Since 2000, the seven states that share the Colorado have witnessed cumulative flows dropped 13 trillion gallons below average. The latest 24-month projection for the next year forewarns possibly the lowest releases into Lake Mead since the filling of Lake Powell.

The most critical consequence of such prolonged droughts is developing a quick and lasting adaptation strategy. The obvious first reaction is to reduce consumer consumption.

In the new environment in which we find ourselves however this plan has to reflect a permanent change in water use habits, not a short term drought response. My agency adopted one of the nation's most aggressive water conservation programs having paid our customers to date nearly \$200 million to remove grass and replace it with desert vegetation. This has resulted in reducing our annual water use by approximately 29 billion gallons even as our population swelled by 400,000 inhabitants.

Today, the residents of Southern Nevada can proudly claim a net water use of 75 gallons per person per day and that in the driest city of the United States. Next, we immediately began to build a new intake deeper into Lake Mead at a cost of almost a billion dollars paid for entirely by our customers. Finally,

we're developing a water supply that's hydrologically independent of the Colorado River.

As a river community sharing a resource with six neighbors in the United States and the Country of Mexico, the impacts are being felt by all of us.

For all of us, the need to cooperate has never been greater. Therefore, the importance of the Interim Shortage Agreement signed by the states in 2007, and Minute 319 that Mike referenced, signed with Mexico last November cannot be ignored. Seven states and one foreign country have agreed to set aside their differences and cooperatively work to protect all the users of the river and the environment as well.

Further, regional wholesalers in the lower basin meaning Metropolitan and Southern California, Central Arizona Water Conservation District and ourselves are banking water together and funding projects to extend the resources of this fragile river.

Today, Lake Mead is 10 feet higher than it would normally be because of the efforts of these three agencies and Mexico. Even the most thoughtful and prudent strategies won't work if they can't be implemented. Adapting to challenges ranging from severe drought to heavy precipitation or rising sea level requires investment in water infrastructure. As stated earlier, just our one intake project costing nearly a billion dollars, and that's one project in one community.

Considering all of water, the water agencies will likely be affected by extreme weather events, the financial implications are staggering. We know that local rate payers and all our communities will face significant rate increases even if all the various federal infrastructure proposals are enacted. That burden becomes that much more onerous if municipal bonds lose their tax exempt status. We urge you to resist any attempt to remove this exemption.

I can't come before you today without addressing the critical need for research, focused, applied research. The development of adaptation strategy requires actionable research that explores the full range of impacts on water utilities, both in water supply and water quality realms. To that end, we

recommend the federal government partner with the Water Research Foundation to optimize the value of research investments.

Americans have a remarkable goal ability to overcome adversity. Southern Nevada and the larger community have proven that with courage, resilience, and tenacity. We in the water industry respectfully ask that you support our efforts to adapt to and surmount the challenges we're facing due to dramatically shifting climate conditions.

Thank you.

WYDEN:

Thank you very much, Ms Mulroy.

Dr. Webber.

WEBBER:

Mr. Chairman and members of the committee, thank you very much for the invitation to speak before your committee on the effects of drought on the energy sector. My name is Michael Webber and I'm the Deputy Director of the Energy Institute at the University of Texas at Austin, and I'm here to share my perspective.

This testimony will make a few key points. Firstly, the energy sector is heavily dependent on water as you noted in your opening remarks. Secondly, the water constraints from drought or heat waves can become energy constraints. And thirdly, there are technical and policy solutions available.

So, the first point, the energy sector's dependence on water introduces vulnerability to drought as a key concept. The energy sector uses a lot of water, namely water is needed for power generation and for fuel's production. It's also used for refining the other steps, but the production of the fuels and the generation is the most important.

For power generation we use water directly to spin hydrologic turbines at dams and indirectly as a coolant for thermoelectric power plants.

And for fuels production, we use water to grow energy crops and to extract oil and gas.

Let me start with the power sector, the thermoelectric power sector -- comprised of power plants that use heat to generate power, including those that operate on nuclear coal, natural gas, or biomass fuels -- is the single largest user of water in the United States.

Cooling of power plants is responsible for 39 percent of non- consumptive freshwater use and is responsible for total withdrawals of 200 billion gallons of water everyday.

But because most of that water return to its source, the power sector is responsible only for three percent of national water consumption, as was noted by Senator Manchin.

The amount of water used by power plants depends on the type of fuel, coal, gas, nuclear, wind, et cetera, the type of power cycle, steam cycles versus combined cycles, and the cooling technology as well as prevailing climate.

So, there are many factors to determine how much water is used by the power plants, and the tables provided with those details for you.

Nuclear is the most water intensive, and solar panels, wind, and natural gas combined cycle are water-lean for power plants.

Referring to Senator Manchin's remarks earlier, there two types of water used, the non-consumptive and the consumptive use. Consumptive water use is important because it has an impact on water availability for other users. Non-consumptive water use is also important, these are the withdrawals, because they affect the power sectors reliability and impact the environment through potential impingement of aquatic life and thermal loading of waterways. This says the waterways get heated by the power plants.

If water is too scarce or too hot from droughts or heat waves, then the electric grid might be less reliable, and power plants might need to turn off or dial back because of the need to comply with the thermal pollution limits. And that could have cascading effects through other sectors, affecting refineries, the gas distribution grid, water systems and so forth, and that introduces

significant risk to economic activity and human health.

For example, during the heat wave in France in 2003, it was responsible for nearly 10, 000 deaths. Nuclear power plants in France had to reduce their power output because of the high inlet temperatures of the water, and eventually that caused a dial back of power, and that was a risk to human life there.

And then there's other heat waves that put U.S. power plants at risk as well. And then droughts also have this effect of lowering water levels behind dams and reducing the availability of cooling water for power plants.

During the drought in the Southeastern United States in 2008, nuclear power plants were within days of turning off. And we had the drought in India last year that triggered the power outage that affected 600 million people. So, we know droughts can affect the reliability of the energy sector.

Because thousands of power plants in the United States are located in the region covered by last year's drought, we know that we are at risk for some of the same problems.

There are several ways to reduce the vulnerability of the power sector to droughts and heat waves. We can install or switch to fuel to water-lean forms like solar, wind, natural gas combined cycle. We could switch the cooling technology to water-lean forms like dry cooling or hybrid wet-dry cooling 'cause not all power plants need wet cooling all the time. We can also switch the water source to effluent or waste water or saline or other mine waters I've mentioned earlier.

The fuel sector also needs water. Water is used for conventional oil and gas production for techniques such as water flooding to get oil and gas out of the reservoirs. It's also use to grow biofuels. And biofuels need something like a thousand gallons of water per gallon of fuel, compare that with a couple gallons of water per gallon of fuel for conventional oil and gas. So, this means biofuels are also at risk from drought just as the power plants are.

Shale oil on shale gas production typically require something like 1 to 9 million gallons of water per well. They also return millions of gallons of

waste water. So, that means they're also at risk from water constraints. In fact, there are some places in Texas that are considering prohibitions against using water -- local ground water for shale oil and gas production.

There are several ways to reduce the risks of water scarcity and how they might constrain oil and gas production. One is to look at water reuse technologies from well to well for shale oil and gas production. Looking at waterless-fracking techniques. Enhance technologies at the drilling pad to speed up drilling times and reduce the amount of water that is needed. And using effluent, brackish water, or greywater instead of virgin fresh water for the hydraulic fracking.

There are a variety of policy solutions available. Firstly, I think that this is a topic worthy of federal policy engagement because many rivers, watersheds, basins, and aquifers span several states. So, some states cannot manage the entire water system themselves. And I recommend the following policy actions be considered.

One is collect, maintain, and make available accurate, updated, and comprehensive water data possibility through the U.S. Geological Survey or the Energy Information Administration. The EIA has an extensive database of accurate, up to date and comprehensive information on energy production, consumption, trade, and price. We do not have an equivalent for water and that would be worth while. And consequently, industry, investors, analyst, policymakers, planners lacks suitable water data to inform decisions.

I think you can encourage fuel switching to save water and you can encourage water switching water to save energy. These go back and forth. We can switch to low water fuels like wind, solar and natural gas, so we can switch to other forms of water. We could support the use of dry and hybrid cooling at power plants, invest heavily in water-lean energy R&D. This is biofuel feedstocks that need less water, new fracking techniques and other opportunities. And we encourage water-lean shale production and invest aggressively in conversation because conserving water conserves energy and conserving energy conserves water.

The vulnerability of the energy sector to droughts is important but not obvious. So I'm very pleased to know you're being attentive and that

concludes my testimony.

Thank you very much

WYDEN:

Thank you. I heard you repeatedly talk about the switching and conserving. I think those are pretty good principles, almost sounds like a law firm, switch and conserve, the (inaudible) of law.

Thank you very much. And our last witness will be Dr. Nicole T. Carter, Specialist in Natural Resources Policy for the CRS.

CARTER:

Chairman Wyden, Ranking Member Murkowski, and other members of the committee, thank you for this invitation to appear before you on behalf of the Congressional Research Service. I am Nicole Carter and I'm a Specialist in Natural Resources Policy.

My testimony today will cover some of the other non-agricultural impacts of the drought including navigation and touching on electric power generation as well.

Today, there are fears of flooding on some of the same rivers where we were worried about drought not very long ago. That drought destroyed or damaged a significant portion of the U.S. corn and soybean crops, with impacts on U.S. livestock as feed costs reached record levels.

Drought reduced corn yields which lowered ethanol production. The (inaudible) drought though also had impacts on our navigation system. For those moving agricultural and energy products on waterways, the 2012 drought raised fears of a repeat of what happened in 1988 when we saw extensive closures and significant barge backups.

In 2012, commercial navigation did suffer short-term closures and disruptions but it did not see the same extended closures. By most accounts, the U.S. Army Corps of Engineers maintained the congressionally authorized navigation channel on the Mississippi River. The authorized channel however

is significantly narrower and significantly shallower than what we're accustomed to. As a result, you had barges were have -- tows had to moved barges that were only 15 rather than 30 barges at a time, and barges had to be light-loaded. While these conditions were difficult, the ethanol -- the extended closures of 1988 were avoided.

The impaired navigation conditions in 2012 renewed discussions about the relationship between the Missouri River and the Mississippi River. The federal reservoirs in the Missouri River system provide multi-year and multi-purpose storage to assist in managing the basements' drought and floods.

The Corps operate -- the U.S. Army Corps of Engineers operates these reservoirs according to a Master Manual adopted in 2006. The basin's water history includes instances of dry conditions lasting one year or two years, but also multiple examples of dry conditions lasting six years or twelve years.

After record runoff in the Missouri basin in 2011, federal reservoirs were full in early 2012. During the dry summer and fall of 2012, the Corps released stored water to support Missouri River navigation. These flows incidentally, but critically, supported Mississippi River navigation.

Recently, the Assistant Secretary of the Army has reaffirmed that the Corps lacks the authority to modify Missouri River operations to benefit downstream Mississippi River navigation.

Based on declining reservoir levels and 2013 runoff forecasts, the Corps implemented minimum Missouri River water releases for the winter, thus reducing contributions from the Missouri to the Mississippi beginning late December.

How recent storms may affect spring and summer runoff forecasts remain unclear. What is known is that managing reservoirs in times of droughts embody difficult tradeoffs, such as whether to release stored water in the near-term to offset near-term impacts or to store water for future use in case of continued dryness.

The 2012 drought also affected electric generation in a variety of ways. Impacts were largely at the power plant level. Individual coal and nuclear

power plants curtailed operations due to water access problems and water temperature issues. Others pursued regulatory waivers to continue operations at higher water intake temperatures. Lost generation at drought-impaired facilities was offset by other generation. The mid-continent electric grid avoided major drought-related disruption in 2012. This experience contrasts with the power grid serving most of Texas, which did have to ask customers to conserve during the drought conditions in 2011.

In 2012, hydropower production nationally was above average. Hydropower generation in the Pacific Northwest, although drought-susceptible, was unaffected by the 2012 drought. The Missouri River's basin's strong hydropower generation in 2012 during the drought could be attributed to the full reservoirs at the beginning of the year. The most recent Missouri River hydropower forecast which was performed prior to the current storms anticipated a 20 percent reduction in hydropower generation for 2013. What this shows is that for large reservoirs and reservoir systems, it is often the multi-year droughts that most significantly reduce hydropower generation, and that's also illustrated by the Colorado River Basin.

The 2012 drought provides us a single year of data at this point on drought vulnerability and resilience for significant portion of the United States. It's up to Congress and the Administration to decide, what are the lessons to draw from 2012, both to improve in single and multi-year drought resilience?

Thank you, and I'm available for questions.

WYDEN:

Dr. Carter, thank you.

Perhaps the all-time leading consumer of CRS product, I can tell you even by CRS's high standards, you're doing good work and I appreciate it. Thank you very much.

Mr. Connor, let me go to you first and I got to do some Oregon, you know, Oregon business, you know, with you right here at the outset.

You know, severe drought is just pounding the Klamath basin region of my home state. The Bureau of Reclamation is telling us that the basin has

experienced the second driest January through March on record.

Now, Senator Merkley and Congressman Walden and I worked with the Bureau to secure drought relief for the basin during the really devastating drought that we saw back in 2010. And Oregonians are now concerned that we could be looking at the same thing.

Let me start with this. Oregonians want an assurance that the water won't be cut off to the Klamath project this summer. Can you give us that assurance this morning?

CONNOR:

At this point in time, I can give you my very high expectation that water will not be shutoff to the Klamath project this year. It certainly won't be shutoff in its totality. We are -- two aspects of what we're doing in the climate basin based on the resources provided in 2010 and the Water Usage Mitigation program that we really set up and got going with the folks locally at that point in time. We've got mitigation measures in place. We've got other water supplies that are being accessed in the Klamath basin which will provide, I think, somewhere in the neighborhood of 40,000 to 50,000 acre-feet this year to add to that project water supply.

In addition with our core operations, what Reclamation has done is gone back and redone our operations plan, submitted a new biological assessment to the resource agencies, U.S. Fish and Wildlife Service and NOAA Fisheries, and are seeking a new biological -- consolidated biological opinions from those two agencies to approve those operations for this year, which I anticipate will yield about 75 percent water supply to the project. That coupled with the mitigation program should allow the project to operate this year.

WYDEN:

That sounds constructive, just how does it take away that the Oregon Congressional Delegation, myself, Senator Merkley and Congressman Walden, we are going to push very, very hard to make sure that that high expectation, that water won't be cut off to the Klamath project this summer actually becomes a reality, because, as you know, this area has just been

pounded. And I think that you know we want to work closely with you. We appreciate the fact that you've taken these extra steps, but giving what has gone on and that this is really emblematic of the government's desire to work through some fresh approaches to solving problems, and we just have to make that water is not cut off to the project on the summer.

Now, you touched on it but let me just ask it this way, when will the new biological opinion be completed? You gave several dates and -- just unpack that a little bit more for me so that we know when the next biological opinion will be completed.

CONNOR:

The expectation right now is that we will have the new biological opinion either the second or third week of May. That's the timeframe. So we're about two or three weeks out. And actually that's the only reason I hedged even a little bit. We have been working very closely with the fisheries agencies. We have good expectations that we will receive the biological opinion at that point in time but it's now in their hands, and we're just waiting the actual receive of the document.

WYDEN:

Right, I appreciate that. And I know that you all are pushing ahead in trying to work with the fisheries agency and I just trying to make sure I could sort through an awful lot of biological opinions. Senator Merkley knows this that kind of are circulating through the West and I appreciate that. And I think we've already gotten your pledge previously to continue to work with our delegations the Secure Drought Relief and the Administration's willingness. And let me just move on here quickly.

I'd like to start and since we brought you into the discussion already, maybe we can start with your colleague, Dr. Pulwarty, each of you get to name one specific thing that you would like to see Senator Murkowski and I pursue on a Federal level to deal with this drought issue. And obviously my time is almost out. So, each of you get one specific -- your number one priority bipartisan action in this committee to deal with the drought now.

Dr. Pulwarty.

PULWARTY:

The major issue related to drought has to do with how effectively we're using information for planning. I would suggest that an effort to do the research on linking climate variability, hydrologic processes and communicating that information most carefully to reservoir energy, managers, and agricultural sector is critical. The coordination of information into planning and operations is the most critical aspect.

WYDEN:

Could information quickly shared? We'll call out...

PULWARTY:

Precisely.

WYDEN:

... we'll call out Dr. Pulwarty. Ms. Mulroy?

MULROY:

Yes, Mr. Chairman. From the city's perspective, since he already addressed the research -- better climate research and more direct climate research, I think for purposes of those of us that are on the ground, finding ways to make what is becoming an ever increasing financial burden more tolerable is really first and foremost in our minds. You're looking at billions and billions of dollars that are going to have to be invested. Communities that have to build projects that aren't growth-driven, that aren't decaying infrastructure driven, that are coming out of nowhere in order for whole communities to survive. There needs to be a greater dialogue about how we do that and how we fund those kind of efforts.

WYDEN:

We'll call that innovative financing.

MULROY:

Absolutely.

WYDEN:

Very good. Dr. Webber.

WEBBER:

I recommend a comprehensive, thoughtful, well funded R&D program. So we're prepared to deal with the challenges. So I think right now the energy water nexus is not fully tackled from an R&D perspective and there's opportunity there.

WYDEN:

R&D. Dr. Carter.

CARTER:

CRS does not make recommendations. But what we can do is pull together recommendation.

WYDEN:

Tell me -- let me ask it this way and I appreciate that. And I should have revised the way I asked the question. Based on the literature, because that is something you all are very knowledgeable, is there something of a consensus that there might be one area that -- in the literature. So I'm not asking your opinion, but essentially on the body of the evidence that you all review on an ongoing basis. Is there one approach that may seem to have a consensus in terms of support for purposes of answering this question?

CARTER:

There was a document produced that was delivered to Congress in 2000. It was produced by the National Drought Policy Commission. And in there, they identified a number of recommendations, one of which basically help produced NIDIS. And there are still a number of other recommendations, but

that document is from 2000

So it would be helpful to have information about what happened in 2012, like what you've collected today with this committee. But as of right now, we don't have that information regarding what happened from 2012. We do know that there's some efforts underway, but they seem fairly limited in scope at this time.

WYDEN:

So based in on the literature, you might say that there would be interest, not again CRS's opinion, but looking at what happened in 2012 and getting more detail about that?

CARTER:

A number of people I spoke to said I was the first person sort of asking to do a comprehensive look at what happened...

WYDEN:

I got that.

CARTER:

... on the area.

WYDEN:

I got it. Dr. Murkowski -- Senator Murkowski.

MURKOWSKI:

You've elevated me. I am starting to feel a little bit like an energy geek because this has just been fascinating here this morning, and I so wish, Mr. Chairman, more of our colleagues were here with us today.

We talk so much in this committee about the energy potential and where we're going. And we passed a hydropower or we heard a hydropower bill earlier this week. You and I are working nuclear issues. We've got interest in

Geothermal and we talked about fracking. Everything that we do though in the energy sector comes back to water. And, you know, when I first got on this committee 10 years ago, I was the Chairman of the Water and Power subcommittee.

And coming from Alaska where we have an abundance of water, I had no real appreciation for some of the water fights. And within that committee that I learned that whisky is for drinking and water is for fighting. I learned that a little bit more all the time. And when I appreciate what it is that we have in front of us in terms of the challenges is to how we balance this because we keep using the word nexus, but these are just inextricably tied.

And I've mentioned to you, Mr. Chairman, the importance of water, I think, from a geopolitical global perspective, if we get ourselves into this next big bad war, I'm not convinced that's its over oil, I'm convinced it's -- I'm more convinced that it's over water because it's through water that we will be able to control so much of what we do in other parts of our world whether its energy or otherwise.

So I'm just fascinated with some of the discussion here this morning, very thoughtful contribution from each of you.

Dr. Webber, I really appreciate the way that you've outlined some of the ways that you think that from a federal perspective there should be greater engagement, I clearly believe that.

I've been focused a lot in this committee on what's going on within| -- in so far as, energy reliability. And the fact that we're seeing this shift from coal to natural gas a lot because of what's going on within the market, but also because of the regulatory perspective.

But then you've got this great unknown out there when it comes to what the impact of a warming climate, what the impact of drought will mean on our water resources that are getting impact everything from nuclear to hydro to everything else that we want to do to what were doing with accessing our natural gas through fracking and the availability of water.

So if we appreciate that 7 percent of our energy production right now comes

from hydro, and if you were to suggest that because of droughts we are seeing a reduction in our energy production there, how does this impact the reliability of energy across the country, particularly if you're an area, let's say, where there is a fair amount of hydro and coal? And we see coal moving offline. And we have a prolonged period of drought that's impacting our hydro or any other aspect of it.

Nuclear. I just think that this something that we need to better understand and we really need to be coordinating and collaborating. So my direction here -- and I'll -- I think I'll throw it out to all of you.

It's my understanding that we've got a number of agencies that have responsibility for managing specific aspects of the energy water nexus. But these agencies don't necessarily strategically collaborate or consistently collaborate on these linked issues.

How can we do a better job there and how do we do that given that so much of the energy policy as it relates to water is developed not at the national level, but it's at the regional level, it's at the state level or even the local level, how do we do a better job of the coordination then that goes on at these different levels recognizing that we've got a lot of different agencies that are theoretically tasked to be managing this?

Are we doing what we need to do, and if not, what do we need to do better? And I'll throw it out. We can start here with you, Commissioner. Give me your thoughts.

CONNOR:

Thank you, Senator Murkowski. And this is a theme that I think in the last hearing that you touched upon the coordination that's necessary to move some of these policies forward.

And I'd say two words. I want to address it and give an example, hydropower and with respect to water supply. I think we're moving in a better direction. I think there's a lot of work left to be done with respect to hydropower. The example I'll give is that we entered into an MOU in 2010, Department of Interior, Corps of Engineers, Department of Energy. And we are very

cognizant of MOU's being a feel-good type, you know, document. What we really tried to do is put in practice. So we've aligned our R&D investments jointly with DOE. Reclamation has to facilitate some pilot projects, new technologies in the area of hydropower. I think we've got about 16 projects that are in various phases of implementation. And the bottom line is we have less water and we need to have a more efficient turbines. And that's what that's focused on.

We've also entered into an optimization program that we're doing with the Corps and the Department of Energy. And we're now starting to implement this fiscal year our reclamation projects -- two to three percent gains and efficiency from this optimization program. I think it's something that we can use not just the reclamation facilities but Corps of Engineer facilities. They are the largest hydropower producer in the country.

And then we're also looking at basin-wide solutions where we can shore up the reliability of hydropower on some facilities and maybe look at resolving some of the environmental issues in other facilities in a way that you can actually increase the generating capacity from a particular facility. So in hydropower area I think working at that level across those agencies, we can work on the technology side and create opportunities that we can then work with the private sector.

On the water supply side you hit it exactly. It's not a federal -- it's not a resources -- resource that's federally controlled. We are trying to work through our basin studies program of engaging all the key players in the water arena from states to local entities.

MURKOWSKI:

Who should be in charge of that?

CONNOR:

I don't know that any one entity can be in charge of that in the area of water resources, quite frankly. It crosses state lines. It crosses -- most of these basins are multiple states, so you're not going to have any one state that can control the process.

And certainly there are federal interests but there are not federal water rights that make up the majority of water resources in these basins. So we've got to work through in a collaborative basis. But we've got to be very results-oriented. And I think, quite frankly, given these extended droughts and the projections under a changing climate, we've got people's attention so that they're cutting through the in fighting that can naturally occur. And we are particularly -- Colorado river basin, it's a remarkable, the amount of progress that we've made amongst the seven basin states. The key musical entities, the federal government and now even with Mexico.

MURKOWSKI:

Well let's keep going down the line if we can just get some better -- more ideas on how we can coordinate what is already happening within the agencies. But again, recognizing that effectively, you don't have anybody that is, you know, the one agency in charge. So, how we really collaborate to a better degree.

CONNOR:

From that standpoint, I think it's an extremely rich question. Thanks for the question, Senator. The issue surrounding the enabling infrastructure that we have for monitoring and understanding of groundwater measurements and understanding of the relationship between groundwater and surface water, in the case of New Mexico last year, the Rio Grande went almost virtually entirely in summer to groundwater because surface water was basically non-existent. When we ask "Where should coordination take place given the different forms of accountability, the agencies and the partners have to take shape," we then ask the question "What are the areas of collaboration in monitoring and forecasting and impacts assessment and in the use in communication of information?" One of the big successes of the National Integrated Drought Information System is that it is nominally led by NOAA, but it is inherently interagency.

And developing the efforts that -- in which the agencies will take part in collaborative (inaudible) also see the benefits to themselves become critical.

From the standpoint of working on the Colorado, on the (inaudible) we

ensure that the benefits of the information we are providing is linked to the lead agencies who are operating in that area, the Corps in the case of ACF, certainly Reclamation in the case of the Colorado basin.

Given that issue, I really think that one of the major points that was made by Pat Mulroy which is an opportunity to stand back and say how well are we reconciling different views of what is happening in different watersheds is critical. Instead of the rush to apply information, a good approach is to say "Let the agency stand back and say how best should we collaborate on this issue."

In the case of the -- Colorado we have leeway until around 2024 in order to do this. From the standpoint of collaboration, the key aspects has to be strengthening our monitoring systems, because we're basically losing stream gauges and so on. Strengthening our groundwater recharge estimates, but really working with the agencies on the mandates that they have in designing an effective information system to support adaptation being undertaken by the state and local levels. What I mean by that and we have many examples and one led by Reclamation, the climate working group on water, West Fast and others, is to work with the states, the feds, the tribes on developing appropriate information systems for planning.

Where that comes to bear is by saying which agencies are working together in monitor and forecasting. Which agencies are working together on risk assessment? Which agencies are working together on communicating and preparing information such as USDA, and then coordinating that into an effective information system?

One example is NIDIS.

MURKOWSKI:

Dr. Pulwarty, before we go down the line here, it was my understanding that, under the Energy Policy Act back in '05 it required DOE...

PULWARTY:

Required that, yeah.

MURKOWSKI:

... to implement this program of research, the demonstration development, the commercial action to look just at what you have talked about...

PULWARTY:

Right.

MURKOWSKI:

... with the existing federal programs. To my understanding DOE is not doing that. Is NOAA doing that then through...

PULWARTY:

Certainly in the case of drought and as it links to floods, I wanted to add, simply because we look at floods as things that help end droughts, and so it plays the role. And when we put out a forecast we're saying, "Well, what is the likely to end these conditions?" Well, is it likely to flood? NOAA is coordinating from the standpoint of research and information but the key aspect there is that as problem-oriented. It defines drought as the problem and says, "Work with your partners as effectively as possible."

There's no -- as has been widely said, there's no one agency that can do all of this, that's fairly clear. But the end result is that we do have to go back up the chain to respond to our mandate and our measures of accountability. Where it becomes really critical is in working with our partners such as the utility, the water utilities and others and ensuring that we're coordinating effectively to provide information and planning to support their activities. And in the case of the National Integrated Drought Information System on their public law 109430, that has been the approach we've taken.

MURKOWSKI:

Ms. Mulroy.

MULROY:

Yes. I'd like to echo what he just said, and I can give you a concrete example of it. The single most important thing Congress can do is force inter-agency cooperation.

We -- to talk about having one agency in charge, in all honesty, it'll take so much politics. It will be so difficult to do. And quite honestly, we don't have the time for it. I mean the changes are occurring, but you can, through the way you budget and the way you set things up, force inter-agency cooperation.

That really showed itself and I've got to give huge credit to Mike for herding all the cattle through the Mexico 319 discussions. You had the ultimate collision of the treaty clause of the constitution and the compact clause of the constitution.

The United States government had primacy in all international affairs but had no water with which to sit at the table. They had to bring the states to the table in an international discussion. It was an interesting exercise watching us get to that point, and I'm giving Mike a lot of credit for this. He personally really helped make a lot of this happen, and -- but it proved just how valuable it was when the states and the Mexicans finally we're able to sit in one room, and really understand each other's issues and really began to work together.

And the two parts of the federal government really started cooperating and working in tandem. We move mountains in a very short period of time. That's what's critical. That level of inter-agency collaboration programatically aimed at a single outcome.

MURKOWSKI:

Great. Good comments. Dr. Webber.

WEBBER:

That's a great question. So, I'm going to give you a little bit of good news which is organically people within the different agencies are already starting to find each other and work together.

So, people at the Department of Energy, U.S. Geological Survey, EPA,

National Science Foundation and Department of Homeland Security all have a different interest in this issue, and that they're finding each other in a very unofficial way through different conferences. However, it could be accelerated and expedited improve.

I think there are three things you can do. I think you can give this whole issue a legislative mandate to give it the authority that it's important and that you want to see something done. I think you could give a budget. Right now, there's not really a budget for this issue. So, people are finding each other and convening among themselves but aren't really officially tasked or necessarily don't have the budget for, and you could help clarify the roles.

Department of Homeland Security cares about the energy water issues from a National Security reliability perspective. Department of Energy cares about it from a potential constraint on energy. EPA cares about what energy does to improve water quality for treatment, or what it does to put water at risk from spills. National Science Foundation has a research mission. U.S. Geological Survey has a water quantity and data mission. They all have different missions. And I think you can help clarify those roles, give it a mandate, give it a budget. And then it becomes now an unofficial, organic thing where people find each other but -- a task to all the agencies.

That might be a way to get going as opposed to creating a new agency like Pat Mulroy says. That might be a better way to get going with the existing assets with people who are already interested in just are trying to clarify roles.

MURKOWSKI:

Good point. Dr. Carter.

CARTER:

To add to the positive word of collaboration, I would add innovation. So essentially to allow and to assists the states in some innovative activities that they are attempting already and we may see more after the 2012 drought. You have innovations at the state levels recently in how they're managing groundwater, an example is Kansas. You have innovations which were tested and are being reformulated, some in Georgia related to the management of

the surface groundwater relationship in the Flint River.

So, how -- in addition to just collaboration among the federal agencies, it's having that collaboration allow for that state and local level innovation as well. And I think an example of that maybe a little large was the Western Governors Association did become interested in grid reliability issues. And in particular related to the hydropower question that you asked of what would be the impact. And they had DOE do a DOE lab, (inaudible) and Oregon do a west-wide assessment, and they did identify Ercot in Texas and the Pacific Northwest as being off the grid. Those two were the most vulnerable.

We don't have a similar assessment for the East, so we don't know for example if there are other North Carolina's out there like the example that Roger Pulwarty gave. So, I think that -- one of the things we've seen is that the states and governors are attempting to understand these issues and to grapple with them and seeing how to bring federal resources to support and allow those is one way that we've seen a successful or interesting developments.

MURKOWSKI:

Great. Well, I appreciate the responses that you've each given and, Mr. Chairman, thank you for the latitude to just engage in a little bit of dialogue here on a very important issue.

WYDEN:

Well, I think your questions were very, very helpful. So, you have latitude on my watch all the time. So, let me ask about a couple other areas, and I think you all have picked up that this committee, and Senator Murkowski and I particularly, we care tremendously about hydropower.

We have called it one of the forgotten renewables. That was the message when I went up to meet with Senator Murkowski's constituents. We have gotten these astounding votes in the House of Representatives here recently for hydropower expansion. It's almost like you're about 422 to nothing, and people say the congress is on an alternative galaxy when you're taking about hydropower. I mean these are exceptional kinds of votes. And Senator

Murkowski and keep packing the statistics, 60 percent of the clean, power in the country, opportunity for 60,000 megawatts of growth. This is a very, very exceptional success story.

And I want to ask you about the potential for disruption to hydropower from climate change. And let me kind of just walk you through it and see what you think of this whole area and get your take on it. In the northwest, the snow in the mountain serves as an additional reservoir that slowly releases the water over the spring in the summer. If the snow melt earlier in the year because the temperatures are warming, the question becomes, what's that going to do to the availability of water for hydropower and other uses in the summer?

So, Dr. Pulwarty, why don't you tell me what you think of sort how I kind of unpacked the issue here, and tell me your assessment in terms of how this could affect the availability for what Senator Murkowski and I want to do is move to build on in the future. I mean it's our goal to tap that potential for 60,000 additional megawatts of clean power.

And what's so exciting about the hydropower story is, certainly back when I started looking at this, you know, issue and full head of hair and rugged good looks and all that, there was a lot of arguing back and forth between the developers and the environmental folks.

Senator Murkowski and I have noted those folks have been working together now. And so, we're seeing a lot of common ground and that's one of the reasons why you see this incredible set of votes in the House for hydropower.

And so, tell me what you think about the potential ramifications for hydropower and the success story stemming from this issue of climate change, particularly as we would see it from the Pacific Northwest with that snow in the mountains and the additional reservoir and how that releases over the spring and summer and what happens if the snow melts earlier?

PULWARTY:

Thank you very much for the question. From the standpoint of changing runoff over time, especially for the Pacific Northwest and Alaska, as we look at the changes in earlier runoff the question becomes what's the appropriate

time for storage that also balances the so called parody between hydropower (inaudible) and other resources that are needed. I think from the -- from one of the major lessons that you're seeing that was just described, the Northwest Power Act of 1980 certainly led to new collaborations among the states and the federal agencies.

In other parts of the country where losses due to higher temperatures from evapo-transpiration becomes critical then the hydropower head is reduced simply because we're losing water to the atmosphere in drier conditions.

In the case of the Pacific Northwest where there's not yet full agreements on the total amount of precipitation, but there is agreement on the timing of the flows in a changing climate. I think the critical aspect is balancing the tradeoff between when storage occurs in the earlier system, when flood control then happens as you know better than most. The reliability of flood control becomes critical when flood controls emptying and so it occurs very early in the spring season. And then other meltwater comes down, and we have that tradeoff occurring on the Columbia River Basin as we speak between Canada and the U.S.

Hydropower on smaller tributaries is of course being recommended across the West especially for the Pacific Northwest. Selecting higher level, higher elevation hydropower facilities is now coming in as a question simply because we're seeing the runoff earlier at higher elevations.

The major issue relative to the Pacific Northwest is the spread and scale of those reservoir storage wherein the case of the Southwest, we know, you know, the broader the reservoirs, the more you lose to evaporation.

In the northwest, the limits on evaporation seem to be a lot less. So what ends up happening is that the viability of increasing hydropower in places especially major tributaries becomes more viable.

WYDEN:

From a historical standpoint, how do these droughts stack up in your view Dr. Pulwarty? I mean everybody knows this, you know, this is the worst. This is...

PULWARTY:

Sure.

WYDEN:

... are the most consequential. How do they stack up compared to the other droughts on records?

PULWARTY:

It's an excellent question because when we worked with water providers, when we worked with farmers, the first question we get is not what will happen, it's is this something we've seen before. And so this becomes a very fundamental question.

In the testimony, I mentioned that the spread, this aerial extent of the drought last year at 2012, which is still continuing in the West, was only exceeded by 1934 in which had more months with over 60 percent of the country in record. What helps us out in this context was the 2011 was wet. The 1950s were in fact even more severe in terms of Oklahoma, West Texas and New Mexico.

There are droughts in the past however that have lasted 10 to 20 years that exist in the Tree-Ring record. What was mentioned by pretty much all of the witnesses today was that the viability of our system during multi-year drought is what calls us into question.

We've done a fantastic job, I mean, when John Wesley Powell said in the late 1800s, we can't develop the Colorado River, we developed it and we're still there. So a lot of things were put in to place that were actually very viable from managing risk.

What comes to bear is the comparison between this present drought 2011, 2012, 2013, and the potential for increased severity of drought conditions from temperature. When you add a temperature increase on drought conditions, we're not sure what we get, it could actually be more surprising than we think as occurred during 2002.

In the case of many of the vegetation in the Southwest, they've lasted through previous droughts, the '30s, the '50s but a lot of them not lasting through this one because of the combination of temperature and dryness. The magnitude of the drought is immense, the temporal, the number of years, we've seen other droughts like this.

WYDEN:

Dr. Webber, one question for you at this point, what are the opportunities for using markets and marketplace forces to improve the situation? I mean you all are studying there at -- I guess you're technically called the clean energy incubator at the University of Texas. I want to go back to school and study in that program. That sounds like good stuff. But how might markets be used to integrate renewable energy to increase water supplies?

WEBBER:

So I think there's an opportunity with policy and technologies, but one thing we have with water is highly dysfunctional markets today. Water is not priced in its real value. It's highly regulated. It's about as far from the market as you can imagine.

And if we have more of a market system where water was valued, then people will automatically wish to conserve because we tend to conserve the things that are valuable.

And also, if you had a price for water that matched its actual contribution to the society, you might get interesting transactions emerge. So one thing I see is that in Texas we have agricultural users are the largest users of water as with the rest of the nation. And they tend to get the water for very cheap or very free. And they cannot afford the equipment for irrigation efficiency. It's cheaper to waste the water than to pay for the efficiency.

And next door is the energy sector, looking for water for oil and gas production and shale. The energy sector has a lot of money and wants water.

The agriculture sector has a lot of water and wants money. But normally, you would just do a transaction and trade money for water, but we're not really set up that way for water markets in Texas or the rest of the United States.

If you did that right way, the energy sector would give its money to the agriculture sector and get the water. The agriculture sector have the money needs to invest in efficiency. We therefore still be able to grow its crops but with less water, making water available for the oil and gas guys, and have water available for the streams. So this idea is that markets can make this all more efficient with how it's allocated.

And then there's also the opportunity once you have a price on water, then you can pay for integration and renewal of energy onsite, you can use wind or solar which is often located near brackish water, and use winds-treated water to make fresh water, or you could use onsite (inaudible) oil and gas facilities that are producing a lot of dirty water from the shale gas production. They could do onsite treatments with the flared gases to make it cleaner. Once you have price on water, a lot of these things would happen pretty quickly.

WYDEN:

We're juggling internet taxes, which is extraordinarily important to a state that is being forced against its will under this legislation to go out and collect these online taxes for everybody else in America. So I've got to go to the floor.

And what I'd like to do is Senator Murkowski can ask any additional questions and any closing remarks 'cause all these sitting really that she has the last word. And Senator Murkowski, if that's all right you, why don't you just ask any additional questions? I don't think any other colleagues are going to come and make any closing remarks, that you wish and wrap us up.

MURKOWSKI:

Well, Mr. Chairman, thank you for the opportunity for just one final comment. And we go fight the good fight because Alaska also doesn't have that sales tax. So we're with you on that one.

I just wanted to ask one final, and this is precipitated by your response, Dr Webber. You're clearly in a situation where at times of low water availability, water shortages, extended periods of drought, and just great uncertainty, we don't know what next year is going to yield. We can look at our Farmer's

Almanac and hope that we're right. But it's tough to make it -- to predict with real accuracy.

So you're going to have tensions between your user groups. And as you point out, the agriculture sector uses far more water. The energy sector likes to think that what they believe that they got more money to play with. So I appreciate your discussion here about the pricing of water.

But are we seeing, you know, maybe Ms. Mulroy, you know, in your part of the country, are we seeing pushback on specific types of energy development, because that energy production might be more water intensive? So you have pushback from the Ag sector. You have pushback just from the cities because they recognize that these are issues that are hot, you don't want to raise the cost to the consumer. But you've got remarkable energy potential sitting just right there. But the process that you would use is more water-intensive than others. Are we seeing that type of a standoff between user groups right now?

MULROY:

We're not necessarily seeing a standoff, but what we are seeing is a very clear recognition that in areas that are especially water-lean like Nevada that the type of energy facility that is built makes all the difference in the world.

In 2002, then Governor Kenny Guinn, during the big energy problem in the western United States, and we -- Nevada had the Kern Valley pipeline coming right through southern Nevada. He said clearly, to all the merchant plant developers, you will build air-cooled gas plants. You will not build water-cooled gas plants because the relative difference is 3,000 acre-feet for a water-cooled facility versus 300 acre-feet for a dry-cooled facility.

All solar is not alike. In Nevada, we want photovoltaic solar rather than thermal solar. But any kind of energy use that's very water-intensive is something that isn't appropriate for that particular location. Now, that doesn't mean there aren't areas where it can be.

What you're seeing more and more is the water -- and the water sector is becoming extremely energy efficient because it's its biggest cost factor. And states, as a whole, and whole regions are looking at, given their particular set

of circumstances, what are the appropriate kinds of energy to have in that venue.

MURKOWSKI:

Anybody else care to comment on that?

WEBBER:

Yeah, so I'd say, I think you've identified properly that there's resistance or a stakeholder conflict that can emerge, and it's peacefully done in many cases. What we see, is in Texas, which is a pro-oil and pro-gas state, some local areas are looking to prohibit the use of water for oil and gas production.

So even to the state that sees oil and gas production very favorably sees water as a more important resource, and we'll put in prohibitions or some sort of constraints on that production. Even though the shale oil and shale gas production might be small water use compared to everything else around, it's the marginal user. They're the new user.

So there's already a 100 galloons allocated. The next guy wants another galloon. People say "Forget it." So we definitely some pushback. And we see it with power plants as well. And people wonder now about whether new power plant should be allowed to have their cooling systems the way they want, looking to Nevada as a model actually. Well, if Nevada can do dry cooling, why can't we do dry cooling in our region -- that kind of thing.

So we're definitely seeing this show up in the permitting process where people are engaging about power plants to talk about the cooling systems. And we see it with new water users for oil and gas production. And in the ideal world, we've allocated the right way with the right efficiencies and systems in place so that there's enough water for everybody and enough water leftover for nature as well.

MURKOWSKI:

It almost makes you wonder that -- and we're seeing the shift again in the coal sector moving from coal to natural gas for a host of different reasons, but it makes you wonder, as we see more and more, in terms of areas that are water-

lean, as you described it, Ms. Mulroy, where there will be that push to move out to that technology that was viewed as absolutely acceptable, you know, a solar thermal, absolutely acceptable. But because of the water intensity, a push to move to other technologies that would provide for the same level of production but using water in a more conservative manner.

Well, I really appreciate the information that you've all put out there. I think this has been very helpful to the discussion. It is a reminder to us that when we talk about energy and energy production we can't discuss it in isolation. It has to be in conjunction with the water and water access and the availability and the certainty of it.

And as we see greater uncertainty that is brought about by a changing climate, how we deal with this, how we adapt to it, I think, is going to be a real challenge for us particularly as we know, as you have all noted, that this is a very regional situation, but the impacts can go far beyond the region when we look to our nation's energy consumption.

So thank you for your very thoughtful presentations and the discussion this morning. And with that, we stand adjourned.

CQ Transcriptions, April 25, 2013

List of Panel Members and Witnesses PANEL MEMBERS:

SEN. RON WYDEN, D-ORE. CHAIRMAN

SEN. TIM JOHNSON, D-S.D.

SEN. MARY L. LANDRIEU, D-LA.

SEN. MARIA CANTWELL, D-WASH.

SEN. DEBBIE STABENOW, D-MICH.

SEN. MARK UDALL, D-COLO.

SEN. AL FRANKEN, D-MINN.

SEN. JOE MANCHIN III, D-W.VA.

SEN. CHRIS COONS, D-DEL.

SEN. BRIAN SCHATZ, D-HAWAII

SEN. MARTIN HEINRICH, D-N.M.

SEN. BERNARD SANDERS, I-VT.

SEN. LISA MURKOWSKI, R-ALASKA RANKING MEMBER

SEN. JOHN BARRASSO, R-WYO.

SEN. JIM RISCH, R-IDAHO

SEN. MIKE LEE, R-UTAH

SEN. JOHN HOEVEN, R-N.D.

SEN. ROB PORTMAN, R-OHIO

SEN. JEFF FLAKE, R-ARIZ.

SEN. TIM SCOTT, R-S.C.

SEN. LAMAR ALEXANDER, R-TENN.

SEN. DEAN HELLER, R-NEV.

WITNESSES:

MICHAEL CONNOR, COMMISSIONER OF THE BUREAU OF
RECLAMATION, INTERIOR DEPARTMENT

ROGER PULWARTY, DIRECTOR OF THE NATIONAL INTEGRATED
DROUGHT INFORMATION SYSTEM, NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION, COMMERCE DEPARTMENT

PATRICIA MULROY, GENERAL MANAGER, SOUTHERN NEVADA
WATER AUTHORITY

MICHAEL WEBBER, ASSOCIATE PROFESSOR AND CO-DIRECTOR,
CLEAN ENERGY INCUBATOR, UNIVERSITY OF TEXAS

NICOLE CARTER, SPECIALIST IN NATURAL RESOURCES POLICY,
CONGRESSIONAL RESEARCH SERVICE

Source: **CQ Transcriptions**

All materials herein are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, published or broadcast without the prior written permission of CQ Transcriptions. You may not alter or remove any trademark, copyright or other notice from copies of the content.

© 2013 CQ Roll Call All Rights Reserved.

Classification: UNCLASSIFIED

Caveats: NONE

CQ CONGRESSIONAL TRANSCRIPTS
Congressional Hearings
April 25, 2013 - Final

Senate Energy and Natural Resources Committee Holds Hearing on Drought, Energy and Water Management

LIST OF PANEL MEMBERS AND WITNESSES

WYDEN:

The committee will come to order.

Senator Murkowski is trying to juggle. This is particularly a hectic day as you know with activity on the floor. Lots of committees. She urged that we start. We'll have her opening statement when she gets here.

My friend from Nevada is going to introduce a witness who is especially important to him after the opening statements and we'll proceed at this time.

This morning, we're going to look at drought and the impacts to the energy and water sectors.

Water is life, and without access to water, the world as we know it, ceases to exist, or at least to run effectively.

Last year was the warmest on record. And combined with the exceptionally dry conditions, severe drought affected over 60 percent of our country. Again, that was 60 percent of the country. The cost of the damages associated with last year's drought exceeded \$35 billion. That is a very substantial hit for our economy to take at a time when we have huge economic challenges ahead.

In addition to last year's drought, the country is seeing increasing numbers of extreme weather events. And unfortunately, it seems the drought has almost become part of the norm.

One reason the committee is focusing on this topic today is to better

understand how the recent drought conditions fit into the overall picture of climate change and if there are lessons to be learned to minimize the impact in the current climate and for the future.

Drought impacts everything from farmers to power plant operations and everything in between. Water is a critical resource and yet, so often, it seems to almost be treated as an afterthought.

In my home state of Oregon, Oregonians are seeing severe drought in the Klamath region. The Bureau of Reclamation has told me that the Klamath Basin has experienced the second driest January through March on record. This is a dire situation. This area is one of our thorniest watersheds. This caused the governor of my state in Klamath County to issue drought declarations last week and, in effect, this has become a symbol of the debate about how to deal with droughts, and you saw that in the important Wall Street journal article that recently ran on drought really spotlighting what was going on in the Klamath Basin.

The Bureau of Reclamation is going to be a key player in the work to address drought conditions and solve the long-term resource disputes in the Klamath and other such places across the West. And we have always worked with the bureau in a bi-partisan way and we are going to continue to work with them in that fashion to meet our goals.

Water is also a critical resource for generating electricity. It's obviously needed for generating hydro power, but it's also critical for cooling in many other types of thermoelectric generation like nuclear, biomass, and coal.

For these applications, water must not only be sufficiently available in quantities, but also be cool enough to allow the plants to run safely and effectively. That means that climate change poses a double threat 'cause some of these facilities potentially threatening both water availability and sufficiently cool intake water.

Recent history has demonstrated the vulnerability of the power sector to both drought and high temperature. In 2001, for example,

severe drought in California and the Pacific Northwest resulted in significantly reduced hydroelectric generation causing tight electricity supplies and high prices throughout the West. That drought was estimated to have an economic impact of between \$2.5 and \$6 billion.

High temperatures have also curtailed generation. In 2007, the Tennessee Valley Authority had to temporarily shut down its Brown's Ferry Nuclear Plant because the intake water temperatures were too high. In 2012, the Millstone Nuclear Plant that powers half of Connecticut had to take 40 percent of its capacity offline for almost two weeks because the cooling water it was getting from Long Island Sound was too warm. In the same year, the Braidwood Nuclear Plant in Illinois had to get an exemption to take -- to use intake water that was a 102 degrees instead of shutting down during a heat wave.

The situation in Texas may demonstrate both the concerns and some of the solutions. During the extreme drought conditions of the summer of 2011, Texas made it through with only one power plant curtailing. They did it because of extraordinary conservation efforts by customers and they were also helped by having a lot of wind-energy on their system that doesn't require any water at all. They also bought power on the spot market, with prices hitting an incredible \$3,000 per megawatt-hour, so consumers definitely felt the impact in their power bills.

The following summer was also hot and dry in Texas, but caused less disruption thanks to the steps that I have mentioned, that their utilities had chosen to adopt. An important goal of this hearing is to understand both the risks to the power sector and the strategies for mitigating those risks.

Senator Murkowski, we're glad that you have navigated traffic and the logistics so you could be with us. Let's have your opening statement and then Senator Heller will introduce a witness that is important to him.

And also, after Senator Heller has done that, Senator Franken and

Senator Manchin have also asked to make opening statements and, given the importance of this topic, I think we should just wave our rules and we're going all out now.

MURKOWSKI:

Good.

WYDEN:

All right, Senator Murkowski. And then, in fact, we'll go -- Senator Murkowski, Senator Heller for the introductions. Senator Franken and Senator Manchin.

MURKOWSKI:

Mr. Chairman, thank you. And I appreciate the opportunity for us as a committee to focus on water. We talked a lot about energy and energy technologies and all the great things that are going to move us to our new energy future. But I think, at the end of the day, we have to remember that everything begins with water.

And so, how we address our water issues is key. And if we don't appreciate, if we fail to appreciate the nexus between energy and water, that's really to our detriment.

In my Energy 2020 proposal that I've made available to all of my colleagues, we've got one little chapter on the energy water nexus. And I think that this is critical for us to review and I appreciate the opportunity to do so.

I think we acknowledge that energy and water resources are the foundation of our nation's economy. They're essential to our nation's future in the international security. All forms of energy production, energy distribution, fuel extraction, and fuel refinement require water or affect water resources in some way. Every aspect of extraction, treatment, conveyance, and use of water as well as the treatment of waste water is dependent on sufficient and reliable energy. So it

goes both ways.

Moreover, energy used by these systems is significantly regionally which is important to understand as we look at the impacts of drought on a regional and a local level.

To improve the fundamental relationship between energy use and water use, we need a lot more information, both regarding water and energy. Specifically, what I would like to do, and I outlined some of these in my Energy 2020, is to identify all existing federal research authorities and activities that are currently authorized to address the interdependency of energy and water systems. But that, perhaps, at this time, are not actively doing so.

Also, ensure that DOE and the DOI have the authority to facilitate multi-agency efforts to develop energy and water independency R&D. Further, to ensure that the DOE and DOI develop planning tools to avoid multiuse water conflicts and to ensure that water and energy interdependencies are coordinated.

And then finally, to authorize a coordinated research investment by multiple federal agencies in the development and implementation of certain energy water technologies. These technologies should address the interdependency of energy and water systems and multipurpose water and energy system planning.

So again, Mr. Chairman, I appreciate the focus that the committee is giving this. I thank the government witnesses for appearing before us today. I hope that we can proceed in the near future with legislation to address the issues associated with water management and energy and fuel production. And I look forward to hearing from the panel this morning.

WYDEN:

Thank you, Senator Murkowski. And let me just say, having looked at your report a number of times, I think particularly your RND recommendations in this area really hold out a lot of promise for bi-partisan cooperation, and we're going to work together on that.

Senator Heller is going to do an introduction and then my colleagues to make opening statements.

HELLER:

Terrific. Mr. Chairman, thank you. And thanks for allowing a topic that I agree with the Ranking Member to be critically important. Water and energy, I can't think of two more important issues facing us.

It's my pleasure to welcome and introduce to you Nevada's Pat Mulroy. I want to note, Mr. Chairman, that I didn't say Pat Mulroy from Nevada. She is Nevada's, Pat Mulroy. We're very possessive because of her efforts and hard work. And we're grateful for the work she's done over the last couple of decades on behalf of the Southern Nevada Water Authority.

Senator Reid and myself, we both share a very warm friendships and we both appreciate the relationships we've had over the last couple of decades.

Pat is the General Manager of the Southern Nevada Water Authority in the Las Vegas Valley Water District. Let me assure you she has stellar reputation that precedes her.

For over two decades, Pat has had the incredible challenging job of managing the water resources in Southern Nevada. She's been at the helm during the incredible land boom that ushered in the turn of last century and shepherded the Water Authority during this challenging economic times. The gravity of her job has been compounded by the scarcity of water in Southern Nevada.

As Pat will explain in her testimony, an over appropriated and drought-stricken Colorado River is the primary source of water for Southern Nevadans. Pat has implemented innovative water efficiencies and conservation measures, struck agreements with neighboring states to maximize the availability and flexibility as Nevada's share of the Colorado River, and definitely negotiated

treaties with Mexico. And all the while, the taps have kept flowing in the Las Vegas Valley.

Pat is a leader in her field, well respected by her peers. She's the first woman president of the association, Metropolitan Water Agencies, serves on the board of directors for the National Water Resources Association and the Water Resource Foundation.

I know she'll share with you some of the works she has been involved in and her perspective, and I want to thank her again for being here today.

I look forward to her testimonies and, of course, to all that are here today. Thank you very much for taking time, and those that are in the audience listening to the testimony. Thank you.

WYDEN:

Thank you Senator Heller, and we know is more Ms. Mulroy is important you and Senator Reid, and we're glad she's here. Senator Franken.

FRANKEN:

Chairman Wyden, Ranking Member Murkowski, thank you for holding this hearing. I think it's an extremely important topic that affects so many sectors of our economy, and I want to commend you for giving it the attention that it deserves.

As we talk about drought, I think it's important that we talk about climate change, which we know we is going to result on our nation facing more extreme weather conditions.

Last year was a remarkable year. 2012 was the hottest year on record in the continental United States, beating the previous record by a full degree, which is actually alarming and amazing.

The impacts of the 2012 drought were felt throughout the country and, in fact, more than 70 percent of counties in our country were considered disaster areas.

We are going to hear today about the effects of drought and water shortages on the energy sector.

Last year, we saw serious effects on the Ag sector. Secretary Vilsack estimated the impact to be around \$50 to \$60 billion.

Shipping on the Mississippi River was also seriously impacted. In fact, water levels dropped to the point that it seriously interfered with our ability to transport agricultural goods to market. The waters got so low that shippers had to send barges down to Mississippi half full with soy beans, for example, which makes our beans less competitive with Brazilian beans. In Minnesota, we export about a third of our soy bean crop. And so this is serious issue for us.

Then there's the issue of wildfires. We've heard testimony here when Chief Tidwell testified before the committee last year. I asked him about the link between forest fires and climate change. He told us that we're seeing longer fire seasons on average by more than 30 days. Wildfires are larger, have a more area, and they're more intense.

Chief Tidwell also told us that scientist at the Forest Service thought that climate change was increasing the size and intensity of wild fires and extending their season. These are very serious issues, and so I would again like to thank the chairman and the ranking member for holding this hearing.

I really do believe that we need to come together, democrats and republicans, to hold a serious conversation about climate change and its effects, I think the droughts are clearly one of those effects. And this is -- hearing goes a long way to begin that conversation.

Thank you.

WYDEN:

Senator Manchin. Thank you Senator Franken.

And as I've indicated before, nobody on this committee has put in more time on this climate change issue than you and Senator

Sanders, so we are really happy to have two champions -- consistent champions on this.

Senator Manchin, welcome.

MANCHIN:

Thank you Mr. Chairman, Madame, Vice chairman. Let me just make sure that I'm not a scientist but I do think that the climate change is a world phenomenon, not just in the United States. I know we're trying to beat ourselves up quite a bit that we're totally responsible. But it is a world contributor, if you will.

I'd like to start by acknowledging how lucky we've been in our country to have a relative abundance of fresh and clean drinking water as one of those things that I think all of us can take for granted until it's taken away from us.

Some of the good people of my state of West Virginia have that happened to them last summer. And we do have an abundance of good water. But when we were out of water for weeks due to the derecho storm, and you would not think about that, none of us thought about that, but it knocked out all of our power and we could not have our plants up and running. So people went with weeks without water. And it had a tremendous effect on them and it surely brings the issues like availability of water to the forefront. And it has in my state unlike never before.

There are two types of water usage that are often discussed. We have water withdrawal and then we have water consumption. It's important to understand the difference because a lot of our power plants in West Virginia has an awful lot of power plants. Our energy users withdraw a lot of water but they don't consume that much. And what I mean by that, people think, "Well, my goodness, if we shut the power plant down, we wouldn't use all this water." And we don't consume that much water. We withdraw a lot but we only consume about three percent of what we withdraw.

So our biggest consumer of water is irrigation for agriculture.

Agriculture, historically, has consumed about 81 percent the water we use everyday. And some were around 3 to 4 billion gallons of water a day, and that's 27 times the water consumption as much as any power plants, 27 times.

I just want to point that out to keep it in perspective because it seems to me that we have to look at all the options which are on the table here. And maybe there are some options in improving the ways we irrigate land.

But saving water is important and we need to figure out how to do that. And electric power is at the center of that question. We're looking right now at using mine water -- recycled mine water which we think is a very good use of a resource without withdrawing.

We also know that when we save water, we save energy. And when you save water, you save energy because you don't have to pump it, move it, or do all the things, and that's another energy water nexus that I think we have to look into.

So, I think there's many things that go into all of this. And I just hope that we're broad enough to look at everything.

Thank you

WYDEN:

Thank you, Senator Manchin. And we, in fact, are going to do exactly what you said in conclusion to look at everything. And your subcommittee, in fact, kind of touches almost everything. You have forest, and of course they are dramatically affected by droughts. And Senator Merkley and I know this so well because of the devastating effects of some of the droughts we saw in Eastern Oregon and the implications for fires, and then, of course, you have industry with jurisdictions over mining. So you have both ends of it. We're going to work with you.

Senator Sanders.

SANDERS:

Thank you, Mr. Chairman. I want to apologize to our panelist. I'm going to have to run of this in our security meeting.

WYDEN:

I understand.

SANDERS:

I just want to concur with what Senator Franken said. Drought is one -- one of the manifestations that we are seeing in terms of climate change. We're seeing flooding, we're seeing extreme weather disturbances, we're seeing heat waves that are taking people's lives all over the world.

And I have to say, Mr. Chairman, I think when history looks back at this particular moment, our kids and our grandchildren, our great-grandchildren are going to ask us where were we. Why were we not moving aggressively to prevent the problems that exist today that we know only can going to get worse in the future?

So this is one of those very important issues that has not gotten the attention that it deserves. And I look forward to working with you and Senator Murkowski on addressing it.

Thank you.

WYDEN:

We're sure going to try and change that, Senator Sanders, and thank you for all your leadership.

We're going to go to our witnesses now. You can see the enormous interest here in the panel. We also have the good fortune of having Senator Merkley who is not a member of the committee but a member of Environment and Public Works and has great expertise in experience in this area also to be part of this.

So we're going to look forward to all of the views that are going to be expressed this morning. Let's begin with Michael L. Connor.

Mr. Connor, welcome.

CONNOR:

Thank you, Mr. Chairman.

Mr. Chairman, members of the committee, I'm Mike Connor, Commissioner of the Bureau of Reclamation. I'm pleased to provide testimony regarding the effects of drought on energy and water management.

And on a personal level, it's always a pleasure as well as a privilege to appear before this committee and to work with my former colleagues and the committee staff. It's also an honor to be here with my esteemed colleagues and experts in the field of water resources.

This spring is highlighted NOAA's testimony, much of the West, California, the Rocky Mountains, the Southwest, and the Great Plains remain on the state of moderate to extreme drought. Reclamation's infrastructure anticipates the reality of an arid western climate. It is why Reclamation was created and it's why our projects were built.

Recognizing the drought can never be eliminated and they become more common in the future, Reclamation now leverages its existing projects alongside new initiatives and enhanced water management that helps guard against and mitigate the devastating effects of drought.

My statement today will summarize the activities and the results that we're achieving.

First, in area water operations. Reclamation must constantly work with our contractors to adjust operation plans to mitigate the impacts of water shortages. In California Central Valley, January through March was the driest on record and April is proving no relief.

We are currently taking a number of actions within the CVP to supplement low contract allocations in certain areas of the project. These actions include rescheduling available storage, acquiring supplies from willing sellers, diversifying supplies to wildlife refugees, and constructing a new inter-tie between the CVP and the state water project providing tens of thousands of acre-feet of additional water supply to the project.

The second example concerns that Colorado River. Drought has been normal over much of the past 10 to 12 years. Accordingly, a number of operational agreements have been executed during this time to incentivise conservation and increase the amount of water stored they need to avoid or at least delay shortages in the rural Colorado River basin.

The most recent operational agreement is Minute 319 to the 1944 Colorado River Treaty, a historic arrangement between the United States and Mexico that was signed last November.

Another example includes the Klamath River basin in Oregon. Once again, serious drought conditions are plaguing this basin in 2013. The low water year pits endangered fish versus endangered fish as one species need more water in upper Klamath lake, whereas the other species needs sufficient river flows based on releases from that same lake.

The situation also pits the needs of both sets of fish species against the agricultural community in the basin. Reclamation has worked with the U.S. Fish and Wildlife Service and the National Marine Fishery Service to develop a new operational plan this year intended to maintain protections for fish while allowing irrigation operations to proceed during this year.

A second area I want to talk about is WaterSMART. The WaterSMART program provides the foundation for Reclamation's efforts to achieve a sustainable water supply. Completed WaterSMART grant projects along with other conservation activities are saving an estimated 616,000 acre-feet per year, enough water

for more than 2.4 million people. And our current goal is to save 790,000 acre-feet per year by the end of 2014.

About \$230 million in federal funding has also been provided for the Title 16 Water Reuse Projects since 2009. Eight projects had finished constructions since that time and eight others are expected to be completed this year.

Project sponsors deliver about 295,000 acre-feet of recycled water in 2012 providing a durable drought-resistance supply.

WaterSMART also acknowledges the nexus between energy and water use.

In addition to saving water over the last three years, WaterSMART projects across the West have conserved 40 million kilowatt-hours of electricity annually.

Third, storage opportunities. It's reasonable to ask what role new water storage can play in insulating our country from drought, in the short or long term. Reclamation still studies, constructs, and maintains large surface storage or other water supply projects when authorized by Congress.

As mentioned in my written statement, under WaterSMART program, there are 17 basin studies complete or underway across Reclamation on major river basins in the West. As part of comprehensive assessment of water supply and demand, all of these major basins studies will consider potentially in the store it need -- any the storage needs.

Additionally, within the last few years, Reclamation has completed or helped facilitate seven new storage projects that added additional water supplies in critical water short basins, Ridges Basin Dam in the Animas River system, Brock Reservoir on the Lower Colorado River water which regulates flows and conserves water in Lake Mead, and the expansion of the Los Vaqueros Reservoir in California's Bay-Delta Region which is perennially water-short.

Forth, hydropower impacts. Drought impacts hydropower production just as much as it affects water supply. But in simple terms, reduced

storage equates to less energy.

Since 2001, reduced water availability west-wide has resulted in 11 percent less average energy production from Reclamation's facilities. In the Colorado River's system, it's a 16 percent reduction.

Reclamation has responded to these issues by installing more efficient turbines, initiating an optimization program and promoting new units on existing facilities. Overall, the last four years, Reclamation has worked collaboratively to increase generating capacity at our facilities by over a 110 megawatts through turbine upgrades in new units.

Fifth and finally, Reclamation's legislative authority for drought relief. I stated in our testimony before the committee last week, the Reclamation Emergency Drought Relief Act is an important tool with in a comprehensive strategy to prepare for and respond to drought. As the committee is aware, the authority for Titles I and III of the Act expired at the end of fiscal year 2012. Our 2014 budget seeks an extension of this authority through 2017.

In conclusion, I would simply note that the problem of drought is best addressed proactively through collaborative planning, flexible operating agreements, and targeted investments that promote more efficient water management and sustainable hydropower production.

Mr. Chairman, I'm ready for questions at the appropriate time.

WYDEN:

Very good. Thank you.

Let's have our next witness, Doctor Roger Pulwarty with NOAA. Great.

PULWARTY:

Good morning, Chairman Wyden, Ranking Member Murkowski, and members of the committee. My name is Roger Pulwarty. I'm the

Director of the National Integrated Drought Information System at NOAA.

Thank you for inviting me to speak with you today about drought and its impacts.

Drought is part of the American experience from the still vivid events of the '30s and the '50s to the present 2012, and it one of the driest years on record with the most extensive conditions since 1934. Impacts crossed a broad spectrum from energy and agriculture to recreation and wildfires costing \$35 billion in agriculture alone not counting impacts to recreation and other sectors.

Low river levels threaten commerce on the Mississippi shipping lanes and reduced hydropower generation on the Missouri. Today, drought conditions persist for most of the West.

Recent droughts demonstrate how dry conditions on high temperatures can affect the energy sectors through its dependence on water resources and provide lessons as we go into the future. Specific examples of impacts drawn from the NIDIS partners across the country follow:

In 2007, during the Southeast drought, power plants from Atlanta to Raleigh cut back water use. North Carolina customers faced blackouts as water shortages forced Duke Energy to cut its output.

This severe drought lasting through 2009 threaten the cooling water supplies of 24 of the nation's 104 nuclear power reactors including the well-known Brown's Ferry Nuclear Plant.

The severe 2011 drought in Texas and across the South also reduced power plant cooling reservoirs to record low levels with the associated heat concurrently increasing peak electricity demand. The manager of the Aspen Petroleum Pipeline in South Texas placed several request with NOAA for short and medium-ranged seasonal temperature updates to help inform his company's decisions about energy production.

Drought impacts persist over multiple years.

In California, over 2001 to 2011, the ratio of hydropower to total generation fluctuated between 12 and 22 percent, at 10 percent variation completely dependent on drought conditions.

The Colorado Basin, as was just mentioned, is undergoing the second driest 12-year period on record. The Western Area Power Administration informed us that they've been forced to add a surcharge to customer bills to pay for hydropower losses and to make up for alternative power purchases.

These events also highlight the potential benefits of climate and weather information the managing risk of the water interface. NOAA and its partners are developing weather and climate information to support water and energy sectors in the southwest including how seasonal and year to year climate affects generation of power and the reliability of water supply.

As I look ahead, we know that the physical drivers of drought in the U.S. are linked to sea surface temperatures in the tropical Pacific and Atlantic oceans together with local land conditions on weather.

Important features of the 2012 drought included the rapid expansion of dry conditions from 28 percent in the U.S. in May to over 60 percent by July, what we now term a flash drought. 2012 was also the warmest year on record. High temperatures have been shown to exacerbate drought conditions in the past. And in some regions, droughts are expected to be more severe or prolonged with increasing temperatures.

During the past two months, conditions have improved across some of last year's intense drought areas in the north central plains, the upper Mississippi Valley and the southeast. However, drought persistence on new development as well as above normal temperatures are forecast for west and south Texas. Several basins in the West are now below 50 percent of normal with some actually below 25 percent. California and Oregon are experiencing their driest and third driest springs respectively on record, and we are forecasting little or no prospects for improvements after April.

Recent snows in the mid Rockies have brought watersheds above 85 percent on the eastern section of the basin, but with snowpack still above 60 -- only above 60 percent on the San Juan and southern Rockies, including the Rio Grande head waters. Great Lake water levels are forecast to remain well below long-term averages, while persistence and development of drought are anticipated for the Hawaiian Islands.

Some improvements has forecast for north central Alaska where mountain snowpack was 50 to 75 percent as of the first of March. The National Drought Outlook for the next three months developed by NIDIS and its interagency and state partners has provide us as an appendix to this testimony.

In December 2012, NIDIS drew on its federal partners and state collaborators, USDA, Interior, the Corps of Engineers, several Governors' Associations to convene a National Drought Forum.

The forum highlighted the need to increase public awareness of drought, to increase technical assistance for impacted communities, and also to ensure support for sustained monitoring and data collection critical for effective drought response such as the NRCS, SNOwpack TELemetry sites, the USGS stream gage, and water census.

These activities will build under Department of Commerce-USDA MOU signed in December 12. They will also build upon existing successful partnerships such as the climate and water working group led by the Bureau of Reclamation with NOAA, the Corps of Engineers and other partners to bring together water managers and scientists.

In addition, the Western Water Federal Support Team, representing 12 federal agencies, was established in 2008 to support the Western States Water Council and the Western Governors in coordinating federal activities.

To help the nation's energy resilience to drought, NOAA will work with its partners to improve the regional outlooks for weather and

climate conditions and potential impacts on critical sectors, understand which energy sources and plants are in particular drought sensitive locations, and the links between regional climate variability and hydrologic processes such as groundwater recharge that can help support economic activities over the long term. Engagement among federal agencies and nonfederal partners is critical, and NIDIS has played a role in leading those.

Information in this testimony is drawn from NIDIS and its many federal states tribal and private partners, including NOAA centers such as the Physical Sciences Division, the River Forecast Centers, the National Drought Mitigation Center at the University of Nebraska in Lincoln, the U.S. Corp of Engineers, WaterSMART, the Water Census, the Western Governor's Associations and state climatologists.

Thank you for the opportunity to speak with you today.

WYDEN:

Thank you very much, Doctor. Welcome Ms. Mulroy. Welcome again since Dean Heller is giving you the first one.

MULROY:

Thank you, Senator, Chairman Wyden, Senator Murkowski, members of the committee, I appreciate this opportunity to testify on this very important topic. And I'd like to take this opportunity to thank Senator Heller for his kind welcome and assure him that we, in Nevada, know how fortunate we are that he is representing our interest back here in Washington D.C.

My name is Patricia Mulroy and I am the General Manager of the southern Nevada Water Authority, Lead Negotiator for the state of Nevada, and all interstate and international matters on the Colorado River.

I'm here today on behalf of the water utilities throughout the United

States since I'm currently President of the Association of Metropolitan Water Agencies and a Trustee of the Water Research Foundation.

Around the world, water utilities are finding themselves on the frontline of extreme weather events. The effects of a severe and prolonged drought have been particularly apparent in the desert southwest especially in southern Nevada.

In 2002, after only two years of the now 13-year drought, we went from having a reliable 50-year water plant to facing the reality of immediate severe and debilitating shortages.

My experience reflects the challenges facing the American southwest where the flows of the Colorado River support more than 30 million people and irrigate about 15 percent of the nation's crops.

Since 2000, the seven states that share the Colorado have witnessed cumulative flows dropped 13 trillion gallons below average. The latest 24-month projection for the next year forewarns possibly the lowest releases into Lake Mead since the filling of Lake Powell.

The most critical consequence of such prolonged droughts is developing a quick and lasting adaptation strategy. The obvious first reaction is to reduce consumer consumption.

In the new environment in which we find ourselves however this plan has to reflect a permanent in change in water use habits, not a short term drought response. My agency adopted one of the nation's most aggressive water conservation programs having paid our customers to date nearly \$200 million to remove grass and replace it with desert vegetation. This has resulted in reducing our annual water use by approximately 29 billion gallons even as our population swelled by 400,000 inhabitants.

Today, the residents of Southern Nevada can proudly claim a net water use of 75 gallons per person per day and that in the driest city of the United States. Next, we immediately began to build a new intake deeper into Lake Mead at a cost of almost a billion dollars

paid for entirely by our customers. Finally, we're developing a water supply that's hydrologically independent of the Colorado River.

As a river community sharing a resource with six neighbors in the United States and the Country of Mexico, the impacts are being felt by all of us.

For all of us, the need to cooperate has never been greater. Therefore, the importance of the Interim Shortage Agreement signed by the states in 2007, and Minute 319 that Mike referenced, signed with Mexico last November cannot be ignored. Seven states and one foreign country have agreed to set aside their differences and cooperatively work to protect all the users of the river and the environment as well.

Further, regional wholesalers in the lower basin meaning Metropolitan and Southern California, Central Arizona Water Conservation District and ourselves are banking water together and funding projects to extend the resources of this fragile river.

Today, Lake Mead is 10 feet higher than it would normally be because of the efforts of these three agencies and Mexico. Even the most thoughtful and prudent strategies won't work if they can't be implemented. Adapting to challenges ranging from severe drought to heavy precipitation or rising sea level requires investment in water infrastructure. As stated earlier, just our one intake project costing nearly a billion dollars, and that's one project in one community.

Considering all of water, the water agencies will likely be affected by extreme weather events, the financial implications are staggering. We know that local rate payers and all our communities will face significant rate increases even if all the various federal infrastructure proposals are enacted. That burden becomes that much more onerous if municipal bonds lose their tax exempt status. We urge you to resist any attempt to remove this exemption.

I can't come before you today without addressing the critical need for research, focused, applied research. The development of

adaptation strategy requires actionable research that explores the full range of impacts on water utilities, both in water supply and water quality realms. To that end, we recommend the federal government partner with the Water Research Foundation to optimize the value of research investments.

Americans have a remarkable goal ability to overcome adversity. Southern Nevada and the larger community have proven that with courage, resilience, and tenacity. We in the water industry respectfully ask that you support our efforts to adapt to and surmount the challenges we're facing due to dramatically shifting climate conditions.

Thank you.

WYDEN:

Thank you very much, Ms Mulroy.

Dr. Webber.

WEBBER:

Mr. Chairman and members of the committee, thank you very much for the invitation to speak before your committee on the effects of drought on the energy sector. My name is Michael Webber and I'm the Deputy Director of the Energy Institute at the University of Texas at Austin, and I'm here to share my perspective.

This testimony will make a few key points. Firstly, the energy sector is heavily dependent on water as you noted in your opening remarks. Secondly, the water constraints from drought or heat waves can become energy constraints. And thirdly, there are technical and policy solutions available.

So, the first point, the energy sector's dependence on water introduces vulnerability to drought as a key concept. The energy sector uses a lot of water, namely water is needed for power generation and for fuel's production. It's also used for refining the

other steps, but the production of the fuels and the generation is the most important.

For power generation we use water directly to spin hydrologic turbines at dams and indirectly as a coolant for thermoelectric power plants.

And for fuels production, we use water to grow energy crops and to extract oil and gas.

Let me start with the power sector, the thermoelectric power sector -- comprised of power plants that use heat to generate power, including those that operate on nuclear coal, natural gas, or biomass fuels -- is the single largest user of water in the United States.

Cooling of power plants is responsible for 39 percent of non-consumptive freshwater use and is responsible for total withdrawals of 200 billion gallons of water everyday.

But because most of that water return to its source, the power sector is responsible only for three percent of national water consumption, as was noted by Senator Manchin.

The amount of water used by power plants depends on the type of fuel, coal, gas, nuclear, wind, et cetera, the type of power cycle, steam cycles versus combined cycles, and the cooling technology as well as prevailing climate.

So, there are many factors to determine how much water is used by the power plants, and the tables provided with those details for you.

Nuclear is the most water intensive, and solar panels, wind, and natural gas combined cycle are water-lean for power plants.

Referring to Senator Manchin's remarks earlier, there two types of water used, the non-consumptive and the consumptive use.

Consumptive water use is important because it has an impact on water availability for other users. Non-consumptive water use is also important, these are the withdrawals, because they affect the power sectors reliability and impact the environment through potential

impingement of aquatic life and thermal loading of waterways. This says the waterways get heated by the power plants.

If water is too scarce or too hot from droughts or heat waves, then the electric grid might be less reliable, and power plants might need to turn off or dial back because of the need to comply with the thermal pollution limits. And that could have cascading effects through other sectors, affecting refineries, the gas distribution grid, water systems and so forth, and that introduces significant risk to economic activity and human health.

For example, during the heat wave in France in 2003, it was responsible for nearly 10, 000 deaths. Nuclear power plants in France had to reduce their power output because of the high inlet temperatures of the water, and eventually that caused a dial back of power, and that was a risk to human life there.

And then there's other heat waves that put U.S. power plants at risk as well. And then droughts also have this effect of lowering water levels behind dams and reducing the availability of cooling water for power plants.

During the drought in the Southeastern United States in 2008, nuclear power plants were within days of turning off. And we had the drought in India last year that triggered the power outage that affected 600 million people. So, we know droughts can affect the reliability of the energy sector.

Because thousands of power plants in the United States are located in the region covered by last year's drought, we know that we are at risk for some of the same problems.

There are several ways to reduce the vulnerability of the power sector to droughts and heat waves. We can install or switch to fuel to water-lean forms like solar, wind, natural gas combined cycle. We could switch the cooling technology to water-lean forms like dry cooling or hybrid wet-dry cooling 'cause not all power plants need wet cooling all the time. We can also switch the water source to effluent or waste water or saline or other mine waters I've

mentioned earlier.

The fuel sector also needs water. Water is used for conventional oil and gas production for techniques such as water flooding to get oil and gas out of the reservoirs. It's also use to grow biofuels. And biofuels need something like a thousand gallons of water per gallon of fuel, compare that with a couple gallons of water per gallon of fuel for conventional oil and gas. So, this means biofuels are also at risk from drought just as the power plants are.

Shale oil on shale gas production typically require something like 1 to 9 million gallons of water per well. They also return millions of gallons of waste water. So, that means they're also at risk from water constraints. In fact, there are some places in Texas that are considering prohibitions against using water -- local ground water for shale oil and gas production.

There are several ways to reduce the risks of water scarcity and how they might constrain oil and gas production. One is to look at water reuse technologies from well to well for shale oil and gas production. Looking at waterless-fracking techniques. Enhance technologies at the drilling pad to speed up drilling times and reduce the amount of water that is needed. And using effluent, brackish water, or greywater instead of virgin fresh water for the hydraulic fracking.

There are a variety of policy solutions available. Firstly, I think that this is a topic worthy of federal policy engagement because many rivers, watersheds, basins, and aquifers span several states. So, some states cannot manage the entire water system themselves. And I recommend the following policy actions be considered.

One is collect, maintain, and make available accurate, updated, and comprehensive water data possibility through the U.S. Geological Survey or the Energy Information Administration. The EIA has an extensive database of accurate, up to date and comprehensive information on energy production, consumption, trade, and price. We do not have an equivalent for water and that would be worth while. And consequently, industry, investors, analyst, policymakers,

planners lacks suitable water data to inform decisions.

I think you can encourage fuel switching to save water and you can encourage water switching water to save energy. These go back and forth. We can switch to low water fuels like wind, solar and natural gas, so we can switch to other forms of water. We could support the use of dry and hybrid cooling at power plants, invest heavily in water-lean energy R&D. This is biofuel feedstocks that need less water, new fracking techniques and other opportunities. And we encourage water-lean shale production and invest aggressively in conservation because conserving water conserves energy and conserving energy conserves water.

The vulnerability of the energy sector to droughts is important but not obvious. So I'm very pleased to know you're being attentive and that concludes my testimony.

Thank you very much

WYDEN:

Thank you. I heard you repeatedly talk about the switching and conserving. I think those are pretty good principles, almost sounds like a law firm, switch and conserve, the (inaudible) of law.

Thank you very much. And our last witness will be Dr. Nicole T. Carter, Specialist in Natural Resources Policy for the CRS.

CARTER:

Chairman Wyden, Ranking Member Murkowski, and other members of the committee, thank you for this invitation to appear before you on behalf of the Congressional Research Service. I am Nicole Carter and I'm a Specialist in Natural Resources Policy.

My testimony today will cover some of the other non-agricultural impacts of the drought including navigation and touching on electric power generation as well.

Today, there are fears of flooding on some of the same rivers where

we were worried about drought not very long ago. That drought destroyed or damaged a significant portion of the U.S. corn and soybean crops, with impacts on U.S. livestock as feed costs reached record levels.

Drought reduced corn yields which lowered ethanol production. The (inaudible) drought though also had impacts on our navigation system. For those moving agricultural and energy products on waterways, the 2012 drought raised fears of a repeat of what happened in 1988 when we saw extensive closures and significant barge backups.

In 2012, commercial navigation did suffer short-term closures and disruptions but it did not see the same extended closures. By most accounts, the U.S. Army Corps of Engineers maintained the congressionally authorized navigation channel on the Mississippi River. The authorized channel however is significantly narrower and significantly shallower than what we're accustomed to. As a result, you had barges were have -- tows had to moved barges that were only 15 rather than 30 barges at a time, and barges had to be light-loaded. While these conditions were difficult, the ethanol -- the extended closures of 1988 were avoided.

The impaired navigation conditions in 2012 renewed discussions about the relationship between the Missouri River and the Mississippi River. The federal reservoirs in the Missouri River system provide multi-year and multi-purpose storage to assist in managing the basements' drought and floods.

The Corps operate -- the U.S. Army Corps of Engineers operates these reservoirs according to a Master Manual adopted in 2006. The basin's water history includes instances of dry conditions lasting one year or two years, but also multiple examples of dry conditions lasting six years or twelve years.

After record runoff in the Missouri basin in 2011, federal reservoirs were full in early 2012. During the dry summer and fall of 2012, the Corps released stored water to support Missouri River navigation. These flows incidentally, but critically, supported Mississippi River

navigation.

Recently, the Assistant Secretary of the Army has reaffirmed that the Corps lacks the authority to modify Missouri River operations to benefit downstream Mississippi River navigation.

Based on declining reservoir levels and 2013 runoff forecasts, the Corps implemented minimum Missouri River water releases for the winter, thus reducing contributions from the Missouri to the Mississippi beginning late December.

How recent storms may affect spring and summer runoff forecasts remain unclear. What is known is that managing reservoirs in times of droughts embody difficult tradeoffs, such as whether to release stored water in the near-term to offset near-term impacts or to store water for future use in case of continued dryness.

The 2012 drought also affected electric generation in a variety of ways. Impacts were largely at the power plant level. Individual coal and nuclear power plants curtailed operations due to water access problems and water temperature issues. Others pursued regulatory waivers to continue operations at higher water intake temperatures. Lost generation at drought-impaired facilities was offset by other generation. The mid-continent electric grid avoided major drought-related disruption in 2012. This experience contrasts with the power grid serving most of Texas, which did have to ask customers to conserve during the drought conditions in 2011.

In 2012, hydropower production nationally was above average. Hydropower generation in the Pacific Northwest, although drought-susceptible, was unaffected by the 2012 drought. The Missouri River's basin's strong hydropower generation in 2012 during the drought could be attributed to the full reservoirs at the beginning of the year. The most recent Missouri River hydropower forecast which was preformed prior to the current storms anticipated a 20 percent reduction in hydropower generation for 2013. What this shows is that for large reservoirs and reservoirs systems, it is often the multi-year droughts that most significantly reduce hydropower generation, and that's also illustrated by the Colorado River Basin.

The 2012 drought provides us a single year of data at this point on drought vulnerability and resilience for significant portion of the United States. It's up to Congress and the Administration to decide, what are the lessons to draw from 2012, both to improve in single and multi-year drought resilience?

Thank you, and I'm available for questions.

WYDEN:

Dr. Carter, thank you.

Perhaps the all-time leading consumer of CRS product, I can tell you even by CRS's high standards, you're doing good work and I appreciate it. Thank you very much.

Mr. Connor, let me go to you first and I got to do some Oregon, you know, Oregon business, you know, with you right here at the outset.

You know, severe drought is just pounding the Klamath basin region of my home state. The Bureau of Reclamation is telling us that the basin has experienced the second driest January through March on record.

Now, Senator Merkley and Congressman Walden and I worked with the Bureau to secure drought relief for the basin during the really devastating drought that we saw back in 2010. And Oregonians are now concerned that we could be looking at the same thing.

Let me start with this. Oregonians want an assurance that the water won't be cut off to the Klamath project this summer. Can you give us that assurance this morning?

CONNOR:

At this point in time, I can give you my very high expectation that water will not be shutoff to the Klamath project this year. It certainly won't be shutoff in its totality. We are -- two aspects of what we're doing in the climate basin based on the resources provided in 2010

and the Water Usage Mitigation program that we really set up and got going with the folks locally at that point in time. We've got mitigation measures in place. We've got other water supplies that are being accessed in the Klamath basin which will provide, I think, somewhere in the neighborhood of 40,000 to 50,000 acre-feet this year to add to that project water supply.

In addition with our core operations, what Reclamation has done is gone back and redone our operations plan, submitted a new biological assessment to the resource agencies, U.S. Fish and Wildlife Service and NOAA Fisheries, and are seeking a new biological -- consolidated biological opinions from those two agencies to approve those operations for this year, which I anticipate will yield about 75 percent water supply to the project. That coupled with the mitigation program should allow the project to operate this year.

WYDEN:

That sounds constructive, just how does it take away that the Oregon Congressional Delegation, myself, Senator Merkley and Congressman Walden, we are going to push very, very hard to make sure that that high expectation, that water won't be cut off to the Klamath project this summer actually becomes a reality, because, as you know, this area has just been pounded. And I think that you know we want to work closely with you. We appreciate the fact that you've taken these extra steps, but giving what has gone on and that this is really emblematic of the government's desire to work through some fresh approaches to solving problems, and we just have to make that water is not cut off to the project on the summer.

Now, you touched on it but let me just ask it this way, when will the new biological opinion be completed? You gave several dates and -- just unpack that a little bit more for me so that we know when the next biological opinion will be completed.

CONNOR:

The expectation right now is that we will have the new biological opinion either the second or third week of May. That's the timeframe. So we're about two or three weeks out. And actually that's the only reason I hedged even a little bit. We have been working very closely with the fisheries agencies. We have good expectations that we will receive the biological opinion at that point in time but it's now in their hands, and we're just waiting the actual receive of the document.

WYDEN:

Right, I appreciate that. And I know that you all are pushing ahead in trying to work with the fisheries agency and I just trying to make sure I could sort through an awful lot of biological opinions. Senator Merkley knows this that kind of are circulating through the West and I appreciate that. And I think we've already gotten your pledge previously to continue to work with our delegations the Secure Drought Relief and the Administration's willingness. And let me just move on here quickly.

I'd like to start and since we brought you into the discussion already, maybe we can start with your colleague, Dr. Pulwarty, each of you get to name one specific thing that you would like to see Senator Murkowski and I pursue on a Federal level to deal with this drought issue. And obviously my time is almost out. So, each of you get one specific -- your number one priority bi-partisan action in this committee to deal with the drought now.

Dr. Pulwarty.

PULWARTY:

The major issue related to drought has to do with how effectively we're using information for planning. I would suggest that an effort to do the research on linking climate variability, hydrologic processes and communicating that information most carefully to

reservoir energy, managers, and agricultural sector is critical. The coordination of information into planning and operations is the most critical aspect.

WYDEN:

Could information quickly shared? We'll call out...

PULWARTY:

Precisely.

WYDEN:

... we'll call out Dr. Pulwarty. Ms. Mulroy?

MULROY:

Yes, Mr. Chairman. From the city's perspective, since he already addressed the research -- better climate research and more direct climate research, I think for purposes of those of us that are on the ground, finding ways to make what is becoming an ever increasing financial burden more tolerable is really first and foremost in our minds. You're looking at billions and billions of dollars that are going to have to be invested. Communities that have to build projects that aren't growth-driven, that aren't decaying infrastructure driven, that are coming out of nowhere in order for whole communities to survive. There needs to be a greater dialogue about how we do that and how we fund those kind of efforts.

WYDEN:

We'll call that innovative financing.

MULROY:

Absolutely.

WYDEN:

Very good. Dr. Webber.

WEBBER:

I recommend a comprehensive, thoughtful, well funded R&D program. So we're prepared to deal with the challenges. So I think right now the energy water nexus is not fully tackled from an R&D perspective and there's opportunity there.

WYDEN:

R&D. Dr. Carter.

CARTER:

CRS does not make recommendations. But what we can do is pull together recommendation.

WYDEN:

Tell me -- let me ask it this way and I appreciate that. And I should have revised the way I asked the question. Based on the literature, because that is something you all are very knowledgeable, is there something of a consensus that there might be one area that -- in the literature. So I'm not asking your opinion, but essentially on the body of the evidence that you all review on an ongoing basis. Is there one approach that may seem to have a consensus in terms of support for purposes of answering this question?

CARTER:

There was a document produced that was delivered to Congress in 2000. It was produced by the National Drought Policy Commission. And in there, they identified a number of recommendations, one of

which basically help produced NIDIS. And there are still a number of other recommendations, but that document is from 2000

So it would be helpful to have information about what happened in 2012, like what you've collected today with this committee. But as of right now, we don't have that information regarding what happened from 2012. We do know that there's some efforts underway, but they seem fairly limited in scope at this time.

WYDEN:

So based in on the literature, you might say that there would be interest, not again CRS's opinion, but looking at what happened in 2012 and getting more detail about that?

CARTER:

A number of people I spoke to said I was the first person sort of asking to do a comprehensive look at what happened...

WYDEN:

I got that.

CARTER:

... on the area.

WYDEN:

I got it. Dr. Murkowski -- Senator Murkowski.

MURKOWSKI:

You've elevated me. I am starting to feel a little bit like an energy geek because this has just been fascinating here this morning, and I so wish, Mr. Chairman, more of our colleagues were here with us

today.

We talk so much in this committee about the energy potential and where we're going. And we passed a hydropower or we heard a hydropower bill earlier this week. You and I are working nuclear issues. We've got interest in Geothermal and we talked about fracking. Everything that we do though in the energy sector comes back to water. And, you know, when I first got on this committee 10 years ago, I was the Chairman of the Water and Power subcommittee.

And coming from Alaska where we have an abundance of water, I had no real appreciation for some of the water fights. And within that committee that I learned that whisky is for drinking and water is for fighting. I learned that a little bit more all the time. And when I appreciate what it is that we have in front of us in terms of the challenges is to how we balance this because we keep using the word nexus, but these are just inextricably tied.

And I've mentioned to you, Mr. Chairman, the importance of water, I think, from a geopolitical global perspective, if we get ourselves into this next big bad war, I'm not convinced that's its over oil, I'm convinced it's -- I'm more convinced that it's over water because it's through water that we will be able to control so much of what we do in other parts of our world whether its energy or otherwise.

So I'm just fascinated with some of the discussion here this morning, very thoughtful contribution from each of you.

Dr. Webber, I really appreciate the way that you've outlined some of the ways that you think that from a federal perspective there should be greater engagement, I clearly believe that.

I've been focused a lot in this committee on what's going on within| -- in so far as, energy reliability. And the fact that we're seeing this shift from coal to natural gas a lot because of what's going on within the market, but also because of the regulatory perspective.

But then you've got this great unknown out there when it comes to what the impact of a warming climate, what the impact of drought

will mean on our water resources that are getting impact everything from nuclear to hydro to everything else that we want to do to what we were doing with accessing our natural gas through fracking and the availability of water.

So if we appreciate that 7 percent of our energy production right now comes from hydro, and if you were to suggest that because of droughts we are seeing a reduction in our energy production there, how does this impact the reliability of energy across the country, particularly if you're an area, let's say, where there is a fair amount of hydro and coal? And we see coal moving offline. And we have a prolonged period of drought that's impacting our hydro or any other aspect of it.

Nuclear. I just think that this something that we need to better understand and we really need to be coordinating and collaborating. So my direction here -- and I'll -- I think I'll throw it out to all of you.

It's my understanding that we've got a number of agencies that have responsibility for managing specific aspects of the energy water nexus. But these agencies don't necessarily strategically collaborate or consistently collaborate on these linked issues.

How can we do a better job there and how do we do that given that so much of the energy policy as it relates to water is developed not at the national level, but it's at the regional level, it's at the state level or even the local level, how do we do a better job of the coordination then that goes on at these different levels recognizing that we've got a lot of different agencies that are theoretically tasked to be managing this?

Are we doing what we need to do, and if not, what do we need to do better? And I'll throw it out. We can start here with you, Commissioner. Give me your thoughts.

CONNOR:

Thank you, Senator Murkowski. And this is a theme that I think in the last hearing that you touched upon the coordination that's

necessary to move some of these policies forward.

And I'd say two words. I want to address it and give an example, hydropower and with respect to water supply. I think we're moving in a better direction. I think there's a lot of work left to be done with respect to hydropower. The example I'll give is that we entered into an MOU in 2010, Department of Interior, Corps of Engineers, Department of Energy. And we are very cognizant of MOU's being a feel-good type, you know, document. What we really tried to do is put in practice. So we've aligned our R&D investments jointly with DOE. Reclamation has to facilitate some pilot projects, new technologies in the area of hydropower. I think we've got about 16 projects that are in various phases of implementation. And the bottom line is we have less water and we need to have a more efficient turbines. And that's what that's focused on.

We've also entered into an optimization program that we're doing with the Corps and the Department of Energy. And we're now starting to implement this fiscal year our reclamation projects -- two to three percent gains and efficiency from this optimization program. I think it's something that we can use not just the reclamation facilities but Corps of Engineer facilities. They are the largest hydropower producer in the country.

And then we're also looking at basin-wide solutions where we can shore up the reliability of hydropower on some facilities and maybe look at resolving some of the environmental issues in other facilities in a way that you can actually increase the generating capacity from a particular facility. So in hydropower area I think working at that level across those agencies, we can work on the technology side and create opportunities that we can then work with the private sector.

On the water supply side you hit it exactly. It's not a federal -- it's not a resources -- resource that's federally controlled. We are trying to work through our basin studies program of engaging all the key players in the water arena from states to local entities.

MURKOWSKI:

Who should be in charge of that?

CONNOR:

I don't know that any one entity can be in charge of that in the area of water resources, quite frankly. It crosses state lines. It crosses -- most of these basins are multiple states, so you're not going to have any one state that can control the process.

And certainly there are federal interests but there are not federal water rights that make up the majority of water resources in these basins. So we've got to work through in a collaborative basis. But we've got to be very results-oriented. And I think, quite frankly, given these extended droughts and the projections under a changing climate, we've got people's attention so that they're cutting through the in fighting that can naturally occur. And we are particularly -- Colorado river basin, it's a remarkable, the amount of progress that we've made amongst the seven basin states. The key musical entities, the federal government and now even with Mexico.

MURKOWSKI:

Well let's keep going down the line if we can just get some better -- more ideas on how we can coordinate what is already happening within the agencies. But again, recognizing that effectively, you don't have anybody that is, you know, the one agency in charge. So, how we really collaborate to a better degree.

CONNOR:

From that standpoint, I think it's an extremely rich question. Thanks for the question, Senator. The issue surrounding the enabling infrastructure that we have for monitoring and understanding of groundwater measurements and understanding of the relationship between groundwater and surface water, in the case of New Mexico

last year, the Rio Grande went almost virtually entirely in summer to groundwater because surface water was basically non-existent. When we ask "Where should coordination take place given the different forms of accountability, the agencies and the partners have to take shape," we then ask the question "What are the areas of collaboration in monitoring and forecasting and impacts assessment and in the use in communication of information?" One of the big successes of the National Integrated Drought Information System is that it is nominally led by NOAA, but it is inherently interagency.

And developing the efforts that -- in which the agencies will take part in collaborative (inaudible) also see the benefits to themselves become critical.

From the standpoint of working on the Colorado, on the (inaudible) we ensure that the benefits of the information we are providing is linked to the lead agencies who are operating in that area, the Corps in the case of ACF, certainly Reclamation in the case of the Colorado basin.

Given that issue, I really think that one of the major points that was made by Pat Mulroy which is an opportunity to stand back and say how well are we reconciling different views of what is happening in different watersheds is critical. Instead of the rush to apply information, a good approach is to say "Let the agency stand back and say how best should we collaborate on this issue."

In the case of the -- Colorado we have leeway until around 2024 in order to do this. From the standpoint of collaboration, the key aspects has to be strengthening our monitoring systems, because we're basically losing stream gauges and so on. Strengthening our groundwater recharge estimates, but really working with the agencies on the mandates that they have in designing an effective information system to support adaptation being undertaken by the state and local levels. What I mean by that and we have many examples and one led by Reclamation, the climate working group on water, West Fast and others, is to work with the states, the feds, the tribes on developing appropriate information systems for

planning.

Where that comes to bear is by saying which agencies are working together in monitor and forecasting. Which agencies are working together on risk assessment? Which agencies are working together on communicating and preparing information such as USDA, and then coordinating that into an effective information system?

One example is NIDIS.

MURKOWSKI:

Dr. Pulwarty, before we go down the line here, it was my understanding that, under the Energy Policy Act back in '05 it required DOE...

PULWARTY:

Required that, yeah.

MURKOWSKI:

... to implement this program of research, the demonstration development, the commercial action to look just at what you have talked about...

PULWARTY:

Right.

MURKOWSKI:

... with the existing federal programs. To my understanding DOE is not doing that. Is NOAA doing that then through...

PULWARTY:

Certainly in the case of drought and as it links to floods, I wanted to

add, simply because we look at floods as things that help end droughts, and so it plays the role. And when we put out a forecast we're saying, "Well, what is the likely to end these conditions?" Well, is it likely to flood? NOAA is coordinating from the standpoint of research and information but the key aspect there is that as problem-oriented. It defines drought as the problem and says, "Work with your partners as effectively as possible."

There's no -- as has been widely said, there's no one agency that can do all of this, that's fairly clear. But the end result is that we do have to go back up the chain to respond to our mandate and our measures of accountability. Where it becomes really critical is in working with our partners such as the utility, the water utilities and others and ensuring that we're coordinating effectively to provide information and planning to support their activities. And in the case of the National Integrated Drought Information System on their public law 109430, that has been the approach we've taken.

MURKOWSKI:

Ms. Mulroy.

MULROY:

Yes. I'd like to echo what he just said, and I can give you a concrete example of it. The single most important thing Congress can do is force inter-agency cooperation.

We -- to talk about having one agency in charge, in all honesty, it'll take so much politics. It will be so difficult to do. And quite honestly, we don't have the time for it. I mean the changes are occurring, but you can, through the way you budget and the way you set things up, force inter-agency cooperation.

That really showed itself and I've got to give huge credit to Mike for herding all the cattle through the Mexico 319 discussions. You had the ultimate collision of the treaty clause of the constitution and the compact clause of the constitution.

The United States government had primacy in all international affairs but had no water with which to sit at the table. They had to bring the states to the table in an international discussion. It was an interesting exercise watching us get to that point, and I'm giving Mike a lot of credit for this. He personally really helped make a lot of this happen, and -- but it proved just how valuable it was when the states and the Mexicans finally we're able to sit in one room, and really understand each other's issues and really began to work together.

And the two parts of the federal government really started cooperating and working in tandem. We move mountains in a very short period of time. That's what's critical. That level of inter-agency collaboration programatically aimed at a single outcome.

MURKOWSKI:

Great. Good comments. Dr. Webber.

WEBBER:

That's a great question. So, I'm going to give you a little bit of good news which is organically people within the different agencies are already starting to find each other and work together.

So, people at the Department of Energy, U.S. Geological Survey, EPA, National Science Foundation and Department of Homeland Security all have a different interest in this issue, and that they're finding each other in a very unofficial way through different conferences. However, it could be accelerated and expedited improve.

I think there are three things you can do. I think you can give this whole issue a legislative mandate to give it the authority that it's important and that you want to see something done. I think you could give a budget. Right now, there's not really a budget for this issue. So, people are finding each other and convening among

themselves but aren't really officially tasked or necessarily don't have the budget for, and you could help clarify the roles.

Department of Homeland Security cares about the energy water issues from a National Security reliability perspective. Department of Energy cares about it from a potential constraint on energy. EPA cares about what energy does to improve water quality for treatment, or what it does to put water at risk from spills. National Science Foundation has a research mission. U.S. Geological Survey has a water quantity and data mission. They all have different missions. And I think you can help clarify those roles, give it a mandate, give it a budget. And then it becomes now an unofficial, organic thing where people find each other but -- a task to all the agencies.

That might be a way to get going as opposed to creating a new agency like Pat Mulroy says. That might be a better way to get going with the existing assets with people who are already interested in just are trying to clarify roles.

MURKOWSKI:

Good point. Dr. Carter.

CARTER:

To add to the positive word of collaboration, I would add innovation. So essentially to allow and to assists the states in some innovative activities that they are attempting already and we may see more after the 2012 drought. You have innovations at the state levels recently in how they're managing groundwater, an example is Kansas. You have innovations which were tested and are being reformulated, some in Georgia related to the management of the surface groundwater relationship in the Flint River.

So, how -- in addition to just collaboration among the federal agencies, it's having that collaboration allow for that state and local level innovation as well. And I think an example of that maybe a little

large was the Western Governors Association did become interested in grid reliability issues. And in particular related to the hydropower question that you asked of what would be the impact. And they had DOE do a DOE lab, (inaudible) and Oregon do a west-wide assessment, and they did identify Ercot in Texas and the Pacific Northwest as being off the grid. Those two were the most vulnerable.

We don't have a similar assessment for the East, so we don't know for example if there are other North Carolina's out there like the example that Roger Pulwarty gave. So, I think that -- one of the things we've seen is that the states and governors are attempting to understand these issues and to grapple with them and seeing how to bring federal resources to support and allow those is one way that we've seen a successful or interesting developments.

MURKOWSKI:

Great. Well, I appreciate the responses that you've each given and, Mr. Chairman, thank you for the latitude to just engage in a little bit of dialogue here on a very important issue.

WYDEN:

Well, I think your questions were very, very helpful. So, you have latitude on my watch all the time. So, let me ask about a couple other areas, and I think you all have picked up that this committee, and Senator Murkowski and I particularly, we care tremendously about hydropower.

We have called it one of the forgotten renewables. That was the message when I went up to meet with Senator Murkowski's constituents. We have gotten these astounding votes in the House of Representatives here recently for hydropower expansion. It's almost like you're about 422 to nothing, and people say the congress is on an alternative galaxy when you're taking about hydropower. I mean these are exceptional kinds of votes. And

Senator Murkowski and keep packing the statistics, 60 percent of the clean, power in the country, opportunity for 60,000 megawatts of growth. This is a very, very exceptional success story.

And I want to ask you about the potential for disruption to hydropower from climate change. And let me kind of just walk you through it and see what you think of this whole area and get your take on it. In the northwest, the snow in the mountain serves as an additional reservoir that slowly releases the water over the spring in the summer. If the snow melt earlier in the year because the temperatures are warming, the question becomes, what's that going to do to the availability of water for hydropower and other uses in the summer?

So, Dr. Pulwarty, why don't you tell me what you think of sort how I kind of unpacked the issue here, and tell me your assessment in terms of how this could affect the availability for what Senator Murkowski and I want to do is move to build on in the future. I mean it's our goal to tap that potential for 60,000 additional megawatts of clean power.

And what's so exciting about the hydropower story is, certainly back when I started looking at this, you know, issue and full head of hair and rugged good looks and all that, there was a lot of arguing back and forth between the developers and the environmental folks.

Senator Murkowski and I have noted those folks have been working together now. And so, we're seeing a lot of common ground and that's one of the reasons why you see this incredible set of votes in the House for hydropower.

And so, tell me what you think about the potential ramifications for hydropower and the success story stemming from this issue of climate change, particularly as we would see it from the Pacific Northwest with that snow in the mountains and the additional reservoir and how that releases over the spring and summer and what happens if the snow melts earlier?

PULWARTY:

Thank you very much for the question. From the standpoint of changing runoff over time, especially for the Pacific Northwest and Alaska, as we look at the changes in earlier runoff the question becomes what's the appropriate time for storage that also balances the so called parody between hydropower (inaudible) and other resources that are needed. I think from the -- from one of the major lessons that you're seeing that was just described, the Northwest Power Act of 1980 certainly led to new collaborations among the states and the federal agencies.

In other parts of the country where losses due to higher temperatures from evapo-transpiration becomes critical then the hydropower head is reduced simply because we're losing water to the atmosphere in drier conditions.

In the case of the Pacific Northwest where there's not yet full agreements on the total amount of precipitation, but there is agreement on the timing of the flows in a changing climate. I think the critical aspect is balancing the tradeoff between when storage occurs in the earlier system, when flood control then happens as you know better than most. The reliability of flood control becomes critical when flood controls emptying and so it occurs very early in the spring season. And then other meltwater comes down, and we have that tradeoff occurring on the Columbia River Basin as we speak between Canada and the U.S.

Hydropower on smaller tributaries is of course being recommended across the West especially for the Pacific Northwest. Selecting higher level, higher elevation hydropower facilities is now coming in as a question simply because we're seeing the runoff earlier at higher elevations.

The major issue relative to the Pacific Northwest is the spread and scale of those reservoir storage wherein the case of the Southwest, we know, you know, the broader the reservoirs, the more you lose to evaporation.

In the northwest, the limits on evaporation seem to be a lot less. So what ends up happening is that the viability of increasing hydropower in places especially major tributaries becomes more viable.

WYDEN:

From a historical standpoint, how do these droughts stack up in your view Dr. Pulwarty? I mean everybody knows this, you know, this is the worst. This is...

PULWARTY:

Sure.

WYDEN:

... are the most consequential. How do they stack up compared to the other droughts on records?

PULWARTY:

It's an excellent question because when we worked with water providers, when we worked with farmers, the first question we get is not what will happen, it's is this something we've seen before. And so this becomes a very fundamental question.

In the testimony, I mentioned that the spread, this aerial extent of the drought last year at 2012, which is still continuing in the West, was only exceeded by 1934 in which had more months with over 60 percent of the country in record. What helps us out in this context was the 2011 was wet. The 1950s were in fact even more severe in terms of Oklahoma, West Texas and New Mexico.

There are droughts in the past however that have lasted 10 to 20 years that exist in the Tree-Ring record. What was mentioned by pretty much all of the witnesses today was that the viability of our

system during multi-year drought is what calls us into question.

We've done a fantastic job, I mean, when John Wesley Powell said in the late 1800s, we can't develop the Colorado River, we developed it and we're still there. So a lot of things were put in to place that were actually very viable from managing risk.

What comes to bear is the comparison between this present drought 2011, 2012, 2013, and the potential for increased severity of drought conditions from temperature. When you add a temperature increase on drought conditions, we're not sure what we get, it could actually be more surprising than we think as occurred during 2002.

In the case of many of the vegetation in the Southwest, they've lasted through previous droughts, the '30s, the '50s but a lot of them not lasting through this one because of the combination of temperature and dryness. The magnitude of the drought is immense, the temporal, the number of years, we've seen other droughts like this.

WYDEN:

Dr. Webber, one question for you at this point, what are the opportunities for using markets and marketplace forces to improve the situation? I mean you all are studying there at -- I guess you're technically called the clean energy incubator at the University of Texas. I want to go back to school and study in that program. That sounds like good stuff. But how might markets be used to integrate renewable energy to increase water supplies?

WEBBER:

So I think there's an opportunity with policy and technologies, but one thing we have with water is highly dysfunctional markets today. Water is not priced in its real valued. It's highly regulated. It's about as far from the market as you can imagine.

And if we have more of a market system where water was valued,

then people will automatically wish to conserve because we tend to conserve the things that are valuable.

And also, if you had a price for water that matched its actual contribution to the society, you might get interesting transactions emerge. So one thing I see is that in Texas we have agricultural users are the largest users of water as with the rest of the nation. And they tend to get the water for very cheap or very free. And they cannot afford to the equipment for irrigation efficiency. It's cheaper to waste the water than to pay for the efficiency.

And next door is the energy sector, looking for water for oil and gas production and shale. The energy sector has a lot of money and wants water.

The agriculture sector has a lot of water and wants money. But normally, you would just do a transaction and trade money for water, but we're not really set up that way for water markets in Texas or the rest of the United States.

If you did that right way, the energy sector would give its money to the agriculture sector and get the water. The agriculture sector have the money needs to invest in efficiency. We therefore still be able to grow its crops but with less water, making water available for the oil and gas guys, and have water available for the streams. So this idea is that markets can make this all more efficient with how it's allocated.

And then there's also the opportunity once you have a price on water, then you can pay for integration and renewal of energy onsite, you can use wind or solar which is often located near brackish water, and use winds-treated water to make fresh water, or you could use onsite (inaudible) oil and gas facilities that are producing a lot of dirty water from the shale gas production. They could do onsite treatments with the flared gases to make it cleaner. Once you have price on water, a lot of these things would happen pretty quickly.

WYDEN:

We're juggling internet taxes, which is extraordinarily important to a state that is being forced against its will under this legislation to go out and collect these online taxes for everybody else in America. So I've got to go to the floor.

And what I'd like to do is Senator Murkowski can ask any additional questions and any closing remarks 'cause all these sitting really that she has the last word. And Senator Murkowski, if that's all right you, why don't you just ask any additional questions? I don't think any other colleagues are going to come and make any closing remarks, that you wish and wrap us up.

MURKOWSKI:

Well, Mr. Chairman, thank you for the opportunity for just one final comment. And we go fight the good fight because Alaska also doesn't have that sales tax. So we're with you on that one.

I just wanted to ask one final, and this is precipitated by your response, Dr Webber. You're clearly in a situation where at times of low water availability, water shortages, extended periods of drought, and just great uncertainty, we don't know what next year is going to yield. We can look at our Farmer's Almanac and hope that we're right. But it's tough to make it -- to predict with real accuracy.

So you're going to have tensions between your user groups. And as you point out, the agriculture sector uses far more water. The energy sector likes to think that what they believe that they got more money to play with. So I appreciate your discussion here about the pricing of water.

But are we seeing, you know, maybe Ms. Mulroy, you know, in your part of the country, are we seeing pushback on specific types of energy development, because that energy production might be more water intensive? So you have pushback from the Ag sector. You have pushback just from the cities because they recognize that these are issues that are hot, you don't want to raise the cost to the

consumer. But you've got remarkable energy potential sitting just right there. But the process that you would use is more water-intensive than others. Are we seeing that type of a standoff between user groups right now?

MULROY:

We're not necessarily seeing a standoff, but what we are seeing is a very clear recognition that in areas that are especially water-lean like Nevada that the type of energy facility that is built makes all the difference in the world.

In 2002, then Governor Kenny Guinn, during the big energy problem in the western United States, and we -- Nevada had the Kern Valley pipeline coming right through southern Nevada. He said clearly, to all the merchant plant developers, you will build air-cooled gas plants. You will not build water-cooled gas plants because the relative difference is 3,000 acre-feet for a water-cooled facility versus 300 acre-feet for a dry-cooled facility.

All solar is not alike. In Nevada, we want photovoltaic solar rather than thermal solar. But any kind of energy use that's very water-intensive is something that isn't appropriate for that particular location. Now, that doesn't mean there aren't areas where it can be.

What you're seeing more and more is the water -- and the water sector is becoming extremely energy efficient because it's its biggest cost factor. And states, as a whole, and whole regions are looking at, given their particular set of circumstances, what are the appropriate kinds of energy to have in that venue.

MURKOWSKI:

Anybody else care to comment on that?

WEBBER:

Yeah, so I'd say, I think you've identified properly that there's

resistance or a stakeholder conflict that can emerge, and it's peacefully done in many cases. What we see, is in Texas, which is a pro-oil and pro-gas state, some local areas are looking to prohibit the use of water for oil and gas production.

So even to the state that sees oil and gas production very favorably sees water as a more important resource, and we'll put in prohibitions or some sort of constraints on that production. Even though the shale oil and shale gas production might be small water use compared to everything else around, it's the marginal user. They're the new user.

So there's already a 100 galloons allocated. The next guy wants another galloon. People say "Forget it." So we definitely some pushback. And we see it with power plants as well. And people wonder now about whether new power plant should be allowed to have their cooling systems the way they want, looking to Nevada as a model actually. Well, if Nevada can do dry cooling, why can't we do dry cooling in our region -- that kind of thing.

So we're definitely seeing this show up in the permitting process where people are engaging about power plants to talk about the cooling systems. And we see it with new water users for oil and gas production. And in the ideal world, we've allocated the right way with the right efficiencies and systems in place so that there's enough water for everybody and enough water leftover for nature as well.

MURKOWSKI:

It almost makes you wonder that -- and we're seeing the shift again in the coal sector moving from coal to natural gas for a host of different reasons, but it makes you wonder, as we see more and more, in terms of areas that are water-lean, as you described it, Ms. Mulroy, where there will be that push to move out to that technology that was viewed as absolutely acceptable, you know, a solar thermal, absolutely acceptable. But because of the water intensity, a push to move to other technologies that would provide for the same level of production but using water in a more conservative manner.

Well, I really appreciate the information that you've all put out there. I think this has been very helpful to the discussion. It is a reminder to us that when we talk about energy and energy production we can't discuss it in isolation. It has to be in conjunction with the water and water access and the availability and the certainty of it.

And as we see greater uncertainty that is brought about by a changing climate, how we deal with this, how we adapt to it, I think, is going to be a real challenge for us particularly as we know, as you have all noted, that this is a very regional situation, but the impacts can go far beyond the region when we look to our nation's energy consumption.

So thank you for your very thoughtful presentations and the discussion this morning. And with that, we stand adjourned.

CQ Transcriptions, April 25, 2013

List of Panel Members and Witnesses PANEL MEMBERS:

SEN. RON WYDEN, D-ORE. CHAIRMAN

SEN. TIM JOHNSON, D-S.D.

SEN. MARY L. LANDRIEU, D-LA.

SEN. MARIA CANTWELL, D-WASH.

SEN. DEBBIE STABENOW, D-MICH.

SEN. MARK UDALL, D-COLO.

SEN. AL FRANKEN, D-MINN.

SEN. JOE MANCHIN III, D-W.VA.

SEN. CHRIS COONS, D-DEL.

SEN. BRIAN SCHATZ, D-HAWAII

SEN. MARTIN HEINRICH, D-N.M.

SEN. BERNARD SANDERS, I-VT.

SEN. LISA MURKOWSKI, R-ALASKA RANKING MEMBER

SEN. JOHN BARRASSO, R-WYO.

SEN. JIM RISCH, R-IDAHO

SEN. MIKE LEE, R-UTAH

SEN. JOHN HOEVEN, R-N.D.

SEN. ROB PORTMAN, R-OHIO

SEN. JEFF FLAKE, R-ARIZ.

SEN. TIM SCOTT, R-S.C.

SEN. LAMAR ALEXANDER, R-TENN.

SEN. DEAN HELLER, R-NEV.

WITNESSES:

MICHAEL CONNOR, COMMISSIONER OF THE BUREAU OF
RECLAMATION, INTERIOR DEPARTMENT

ROGER PULWARTY, DIRECTOR OF THE NATIONAL
INTEGRATED DROUGHT INFORMATION SYSTEM, NATIONAL
OCEANIC AND ATMOSPHERIC ADMINISTRATION, COMMERCE
DEPARTMENT

PATRICIA MULROY, GENERAL MANAGER, SOUTHERN
NEVADA WATER AUTHORITY

MICHAEL WEBBER, ASSOCIATE PROFESSOR AND CO-
DIRECTOR, CLEAN ENERGY INCUBATOR, UNIVERSITY OF
TEXAS

NICOLE CARTER, SPECIALIST IN NATURAL RESOURCES
POLICY, CONGRESSIONAL RESEARCH SERVICE

Source: **CQ Transcriptions**

All materials herein are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, published or broadcast without the prior written permission of CQ Transcriptions. You may not alter or remove any trademark, copyright or other notice from copies of the content.

© 2013 CQ Roll Call All Rights Reserved.

To: Bathersfield, Nizanna[Bathersfield.Nizanna@epa.gov]
From: Stoner, Nancy
Sent: Mon 7/21/2014 8:05:56 PM
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

OK, thx

From: Bathersfield, Nizanna
Sent: Monday, July 21, 2014 3:31 PM
To: Stoner, Nancy
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

It's the meeting with the State Associations that's scheduled for Wednesday @ 3pm.

From: Stoner, Nancy
Sent: Monday, July 21, 2014 3:29 PM
To: Bathersfield, Nizanna
Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

What mtg is this?

From: Bathersfield, Nizanna
Sent: Monday, July 21, 2014 2:25:46 PM
To: Gilinsky, Ellen
Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew; Stoner, Nancy; Peck, Gregory
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

I checked in with Darlene and, so far there aren't any confirmations. However, this afternoon they have submitted topics that she will be incorporating into her draft agenda. Here they are:

- Update budget form

- Update

- Update “time out” s

Ex. 5 - Deliberative

-Nizanna

From: Gilinsky, Ellen

Sent: Monday, July 21, 2014 11:09 AM

To: Bathersfield, Nizanna

Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew; Stoner, Nancy; Peck, Gregory

Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

We need to confirm who is participating from the state orgs

From: Bathersfield, Nizanna

Sent: Monday, July 21, 2014 10:14:00 AM

To: Gilinsky, Ellen

Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew; Stoner, Nancy; Peck, Gregory

Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Ellen,

Darlene is still working on the agenda. So far, there are two agenda items: the National Water Program Guidance and 316(b) Implementation.

Please let me know if you need more information.

Thanks,

Nizanna

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

From: Gilinsky, Ellen
Sent: Monday, July 21, 2014 8:18 AM
To: Bathersfield, Nizanna; Stoner, Nancy; Peck, Gregory
Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew
Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

Nizanna I have seen no agenda development for tghe state assoc mtg can you check on this.
Darlene and Macara usually handle. We should have reviewed agenda by now

From: Bathersfield, Nizanna
Sent: Monday, July 21, 2014 8:13:42 AM
To: Stoner, Nancy; Peck, Gregory
Cc: Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Nancy,

Here are the meetings that are currently scheduled for Ken and Ellen. Note. Ellen is on travel to the NACD meeting today and tomorrow.

Please let me know if you need more information.

Thanks,

Nizanna

Ken's Meetings:

· 7/21: 930am-11:00am:

Ex. 5 - Deliberative

- 7/21: 1:30pm-2:00pm:
- 7/21: 2:15pm- 2:45pm:
- 7/21: 5:30pm-6:00pm:
Administrator)
- 7/22: 8:00am-5:00pm:
- 7/23: 7:30am-5:30pm:
- 7/23: 10:00am-10:45am:
- 7/23: 4:00pm-5:00pm:
- 7/24: 9:00am-2pm: No
to this meeting)
- 7/25: 2:00pm-3:00pm:

Ex. 5 - Deliberative

Ellen's Meetings:

- 7/23: 9:00am-10:30am: W
Impact Investments
- 7/23: 3:45pm-4:45pm: Aft
- 7/24: 9:00am-12:00pm: Ar
- 7/24: 11:0am-1:00pm: Cle

Ellen and Ken's

- 7/23: 3:00pm-4:00pm:
conflicting meetings).

Ex. 5 - Deliberative

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

From: Stoner, Nancy

Sent: Thursday, July 17, 2014 8:36 PM

To: Bathersfield, Nizanna; Peck, Gregory

Cc: Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew

Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

How about Ken and Ellen's meetings?

From: Bathersfield, Nizanna

Sent: Thursday, July 17, 2014 5:45:20 PM

To: Peck, Gregory

Cc: Stoner, Nancy; Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew

Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Greg,

For the days that she plans to be in the office, Nancy currently does not have any of these categories of meetings on her calendar for next week.

Thanks and have a good weekend,

Nizanna

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

From: Bathersfield, Nizanna
Sent: Friday, July 11, 2014 4:59 PM
To: Peck, Gregory
Cc: Stoner, Nancy; Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew
Subject: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Greg,

Here are the high level/Administrator/Deputy Administrator meetings that are currently on Nancy's calendar for the days that she's in next week; each of these includes invitees from the OW programs:

· 7/17: 4pm-5pm: B
 Administrator) [Mike

· 7/18: 11am-12:00

Ex. 5 - Deliberative

Ex. 5 - Deliberative

Please let me know if you'd like any follow up on any of these meetings.

Thanks!

Nizanna

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

To: Bathersfield, Nizanna[Bathersfield.Nizanna@epa.gov]
From: Stoner, Nancy
Sent: Mon 7/21/2014 7:28:53 PM
Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

What mtg is this?

From: Bathersfield, Nizanna
Sent: Monday, July 21, 2014 2:25:46 PM
To: Gilinsky, Ellen
Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew; Stoner, Nancy; Peck, Gregory
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

I checked in with Darlene and, so far there aren't any confirmations. However, this afternoon they have submitted topics that she will be incorporating into her draft agenda. Here they are:

- Update on budget formulation
- Update on
- Update on "time out" soon

Ex. 5 - Deliberative

-Nizanna

From: Gilinsky, Ellen
Sent: Monday, July 21, 2014 11:09 AM
To: Bathersfield, Nizanna
Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew; Stoner, Nancy; Peck, Gregory
Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

We need to confirm who is participating from the state orgs

From: Bathersfield, Nizanna
Sent: Monday, July 21, 2014 10:14:00 AM
To: Gilinsky, Ellen
Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew; Stoner, Nancy; Peck, Gregory
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Ellen,

Darlene is still working on the agenda. So far, there are two agenda items: the National Water Program Guidance and 316(b) Implementation.

Please let me know if you need more information.

Thanks,

Nizanna

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

From: Gilinsky, Ellen
Sent: Monday, July 21, 2014 8:18 AM
To: Bathersfield, Nizanna; Stoner, Nancy; Peck, Gregory
Cc: Kopocis, Ken; Penman, Crystal; Klasen, Matthew
Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

Nizanna I have seen no agenda development for tghe state assoc mtg can you check on this. Darlene and Macara usually handle. We should have reviewed agenda by now

From: Bathersfield, Nizanna
Sent: Monday, July 21, 2014 8:13:42 AM
To: Stoner, Nancy; Peck, Gregory
Cc: Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Nancy,

Here are the meetings that are currently scheduled for Ken and Ellen. Note. Ellen is on travel to the NACD meeting today and tomorrow.

Please let me know if you need more information.

Thanks,

Nizanna

Ken's Meetings:

- 7/21: 930am-11:00am
- 7/21: 1:30pm-2:00pm
- 7/21: 2:15pm- 2:45pm
- 7/21: 5:30pm-6:00pm:
Administrator)
- 7/22: 8:00am-5:00pm:
- 7/23: 7:30am-5:30pm:
- 7/23: 10:00am-10:45am
- 7/23: 4:00pm-5:00pm:
- 7/24: 9:00am-2pm: No
to this meeting)
- 7/25: 2:00pm-3:00pm:

Ex. 5 - Deliberative

Ellen's Meetings:

7/23: 9:00am-10:30am: W
Impact Investments

7/23: 3:45pm-4:45pm: Aft

7/24: 9:00am-12:00pm:

7/24: 11:0am-1:00pm: C

Ex. 5 - Deliberative

Ellen and Ken's

7/23: 3:00pm-4:00pm:
conflicting meetings).

Ex. 5 - Deliberative

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you

should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

From: Stoner, Nancy
Sent: Thursday, July 17, 2014 8:36 PM
To: Bathersfield, Nizanna; Peck, Gregory
Cc: Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew
Subject: Re: Next Week's High level/Administrator/Deputy Administrator Meetings

How about Ken and Ellen's meetings?

From: Bathersfield, Nizanna
Sent: Thursday, July 17, 2014 5:45:20 PM
To: Peck, Gregory
Cc: Stoner, Nancy; Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew
Subject: RE: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Greg,

For the days that she plans to be in the office, Nancy currently does not have any of these categories of meetings on her calendar for next week.

Thanks and have a good weekend,

Nizanna

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

From: Bathersfield, Nizanna

Sent: Friday, July 11, 2014 4:59 PM

To: Peck, Gregory

Cc: Stoner, Nancy; Kopocis, Ken; Gilinsky, Ellen; Penman, Crystal; Klasen, Matthew

Subject: Next Week's High level/Administrator/Deputy Administrator Meetings

Hi Greg,

Here are the high level/Administrator/Deputy Administrator meetings that are currently on

Nancy's calendar for the days that she's in next week; each of these includes invitees from the OW programs:

· 7/17: 4pm-5pm:
Administrator) [Mike

Ex. 5 - Deliberative

· 7/18: 11am-12:00pm:

Ex. 5 - Deliberative

Ex. 5 - Deliberative

Please let me know if you'd like any follow up on any of these meetings.

Thanks!

Nizanna

Nizanna Bathersfield

Special Assistant

Office of Water

U.S. Environmental Protection Agency

1201 Constitution Avenue

Rm. 3311

Washington, DC 20004

Phone: 202.564.2258

PRIVILEGE/CONFIDENTIALITY NOTICE: This communication, including any attachment, contains information that may be confidential or privileged, and

is intended solely for the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender at once and you should delete this message. You are hereby notified that disclosure, copying or distribution of this message is strictly prohibited.

To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Lape, Jeff[lape.jeff@epa.gov]; Wood, Robert[Wood.Robert@epa.gov]
Cc: Bathersfield, Nizanna[Bathersfield.Nizanna@epa.gov]
From: Stoner, Nancy
Sent: Thur 6/5/2014 6:57:17 PM
Subject: 316(b) outreach to states

There was a lot of interest in this on the ECOS call. Is there a schedule for outreach that we could send to them?

To: Enck, Judith[Enck.Judith@epa.gov]
From: Stoner, Nancy
Sent: Wed 5/21/2014 6:20:08 AM
Subject: Re: Enviro lawsuit likely over 'largely worthless' cooling water rule

Yeah, I know

From: Enck, Judith
Sent: Tuesday, May 20, 2014 2:28:00 PM
To: Stoner, Nancy; Shapiro, Mike
Subject: Fw: Enviro lawsuit likely over 'largely worthless' cooling water rule

Fyi

From: Soltani, Beth
Sent: Tuesday, May 20, 2014 6:18:23 PM
To: Enck, Judith
Subject: Enviro lawsuit likely over 'largely worthless' cooling water rule

4. UTILITIES:

Enviro lawsuit likely over 'largely worthless' cooling water rule

Annie Snider, E&E reporter

Published: Tuesday, May 20, 2014

Environmental groups are strongly considering taking U.S. EPA back to court over a final cooling water rule the agency released yesterday that greens contend will do little to protect the billions of fish, larvae and other species vacuumed into power plants and factories each year.

"We will have to review it and discuss it, but I think there is a very strong likelihood that we will be back in court to challenge the rule," Reed Super, the attorney representing Waterkeeper Alliance and other environmental groups, said on a call with reporters this morning. "It doesn't come close to what we believe the Clean Water Act requires."

The regulation is aimed at reducing the number of aquatic organisms that get sucked into cooling water intakes and killed by being pinned against screens -- called "impingement" -- or boiled in extremely hot water -- called "entrainment." It applies to facilities that withdraw at least 2 million gallons of water per day. EPA estimates that's about 1,065 facilities, 544 of which are power plants.

The electric utility industry, which is facing a suite of new and looming environmental regulations from U.S. EPA, lobbied hard on the regulation, contending that it had the potential to make plants, particularly nuclear plants, uneconomical; create grid reliability issues; and threaten the administration's climate goals.

The rule released yesterday would require covered plants to pick from one of seven options for reducing impingement -- an increase in flexibility over the proposed rule, which would have given facilities two options for meeting the requirement.

The entrainment provisions, which environmental groups are most focused on, would apply only to facilities that

withdraw very large amounts of water -- 125 million gallons or more per day. Under the rule, plants will have to conduct studies to help their permitting authority determine what types of technologies to reduce impacts would make sense for the plant. Ultimately, the decisions would be site-specific and made by the local permitting agency.

Greens say this amounts to essentially the status quo and that local permitting agencies don't have the wherewithal to set the necessary requirements.

"EPA also acknowledges that these losses 'have immediate and direct effects on the population size and age distribution of affected species and may cascade through the food web,'" said Steve Fleischli, director of the Natural Resources Defense Council's water program. "Despite these known impacts, EPA has promulgated a largely worthless rule that will do almost nothing to protect our waterways and our fisheries from power plants."

Environmentalists were particularly flabbergasted by a provision in the rule that they say would allow states to give facilities credit for reductions in impacts that happened because of plant retirements as much as 10 years ago.

Industry groups said yesterday that they are still reading the rule but welcomed the approach EPA had taken in crafting it.

"The electric power industry has worked for years to educate and inform policymakers of the potential impacts of this regulation on customers and the need for a flexible and cost-effective final rule," Electric Edison Institute President Tom Kuhn said in a statement. "Based upon our initial review of the rule, we are pleased that EPA has avoided imposing a categorical one-size-fits-all approach to compliance; has embraced significant elements of flexibility; and has acknowledged the importance of weighing costs with environmental protection."

One of the areas of greatest concern to industry was whether upgrades of existing plants would trigger the requirement already on the books for new facilities to install closed-cycle cooling. In White House meetings as the rule was undergoing final review, industry representatives argued that such a requirement would disincentivize upgrades that would bring an environmental benefit and could cause reliability problems (*Greenwire*, Feb. 11).

The final rule released yesterday would not require new units at existing facilities to install closed-cycle cooling, but instead would allow the operator to reduce intake flow to a commensurate level with what closed-cycle cooling would use or to demonstrate that it has sufficiently reduced entrainment.

The timeline for implementing the new requirements is not clear. Facilities are given up to 39 months -- more than three years -- to complete the studies required under the rule. State permitting agencies are then given time to review them, set new requirements, and develop a timeline for installation.

"EPA recognizes that it will take facilities time to upgrade existing technologies, and install new technologies, and that there are limits on the number of facilities that can be simultaneously offline to install control technology and still supply goods and services to orderly, functioning markets," the agency said in the rule. "It is appropriate for the Director to take this into account when establishing a deadline for compliance."

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Stoner, Nancy
Sent: Fri 5/9/2014 10:54:27 PM
Subject: Fw: 316(b) Powerpoint
Final Rule Brief_05-09-14.pptx

For my review, thx

From: Wood, Robert
Sent: Friday, May 9, 2014 6:34:07 PM
To: Southerland, Elizabeth; Stoner, Nancy; Sawyers, Andrew; Frace, Sheila; Nagle, Deborah; Kopocis, Ken
Cc: Shriner, Paul; Hewitt, Julie; Highsmith, Damon; Biddle, Lisa; Zipf, Lynn; Lape, Jeff
Subject: 316(b) Powerpoint

Hi Everybody,

Attached is a powerpoint paper we will be using with stakeholders during rollout. It is revised and improved, from the version many of you saw Wednesday, and reflects input from several people who were in our briefing with OWM. The rollout paper, Qs and As, and a fact sheet that have undergone additional editing today will be distributed under separate cover by Travis I believe, so stay tuned for those materials.

Rob

Robert K. Wood, Director

Engineering and Analysis Division

U.S. EPA Office of Water

202-566-1822

To: Loop, Travis[Loop.Travis@epa.gov]
From: Stoner, Nancy
Sent: Thur 4/10/2014 11:54:17 PM
Subject: I have no comments on 316b release

Rollout strategy wasn't attached in my box so I didn't review

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Stoner, Nancy
Sent: Thur 4/10/2014 12:07:56 AM
Subject: Fw: 316b
PRESS RELEASE Cooling Water Intake 4.8.14.docx

Pls put in my review box, thx

From: Loop, Travis
Sent: Wednesday, April 9, 2014 4:16:52 PM
To: Stoner, Nancy; Kopocis, Ken
Cc: Penman, Crystal
Subject: 316b

Here is the release and roll out for review and input. Seems like there should be more notifications.

We have a roll out meeting on Friday at 11 with OEAAEE, OCIR, OST, etc. Let me know if I should add you to invite.

Travis Loop
Director of Communications
Office of Water
U.S. Environmental Protection Agency
202-870-6922

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Stoner, Nancy
Sent: Thur 3/13/2014 10:51:39 PM
Subject: Fw: CWA § 316(b) Rulemaking
 14-0313 316(b) letter to EPA, NMFS and FWS.pdf

Pls print for my reading, thx

From: Reed Super <reed@superlawgroup.com>
Sent: Thursday, March 13, 2014 1:48:39 PM
To: Mccarthy, Gina; feedback@ios.doi.gov; TheSec@doc.gov
Cc: Perciasepe.bob@epa.gov; Garbow, Avi; daniel_ashe@fws.gov; gary_frazer@fws.gov; eileen.sobeck@noaa.gov; donna.wieting@noaa.gov; **Ex. 6 - Personal Privacy**
Ex. 6 - Personal Privacy
 webcontentmgr.enrd@usdoj.gov; Wood, Robert; Hewitt, Julie; Shriner, Paul; Southerland, Elizabeth; Stoner, Nancy; Kopocis, Ken; Gilinsky, Ellen; Neugeboren, Steven; Levine, MaryEllen; Witt, Richard; Shapiro, Mike; Sayers, Rick; pamelalawrence@noaa.gov; Jennifer.Schultz@noaa.gov; Drew Crane; Laity, Jim; Higgins, Cortney; Mancini, Dominic J.
Subject: CWA § 316(b) Rulemaking

Hello,

Please see attached.

Best,
 Reed Super

 Reed W. Super
 SUPER LAW GROUP, LLC
 131 Varick Street, Suite 1033
 New York, New York 10013

(212) 242-2273 (direct)
 (212) 242-2355 (main)

(646) 345-9658 (mobile)
 (855) 242-7956 (fax)

reed@superlawgroup.com
www.superlawgroup.com

*** CONFIDENTIALITY NOTICE *** This e-mail is from Super Law Group, LLC, a law firm, and may contain information that is confidential or privileged. If you are not the intended recipient, do not read, copy or distribute the e-mail or any attachments. Instead, please notify the sender and delete the e-mail and any attachments. Thank you.

**Riverkeeper, Inc. · Natural Resources Defense Council · Sierra Club
Waterkeeper Alliance · Earthjustice · Environment America
Clean Air Task Force · Surfrider Foundation
Super Law Group · National Environmental Law Center**

March 13, 2014

The Honorable Regina A. McCarthy, Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Federal Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

The Honorable Sally Jewell, Secretary
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

The Honorable Penny Pritzker, Secretary
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

Re: CWA § 316(b) – Cooling Water Intake Structure Rule

Dear Administrator McCarthy, Secretary Jewell and Secretary Pritzker:

As attorneys representing some of the largest national and regional environmental organizations in the United States, with millions of members keenly interested in protection of our nation's air, water and other natural resources, we write with respect to the Clean Water Act § 316(b) cooling water rule for existing facilities, which the Environmental Protection Agency (EPA) has committed to issue by April 17, 2014.

In particular, we wish to respond to certain requests, recommendations and legal assertions made in letters from the Edison Electric Institute and the heads of several utility and energy companies (collectively, "EEI") in September and December 2013, the Utility Water Act Group (UWAG) in October 2013, and Senator David Vitter and other Senators in July 2013 and February 2014.

As explained below, what EEI, UWAG and the Senators ask of EPA, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) (collectively, the "Services") would plainly violate the Clean Water Act (CWA) and the Endangered Species Act (ESA).

EPA, USFWS and NMFS
 March 13, 2014
 Page 2 of 12

I.

Endangered Species Act Consultation and ESA-Related Requirements in 316(b) Rule

Cooling water intakes cause widespread and substantial harm to federally-listed threatened and endangered (T&E) species. In initiating formal consultation under the ESA, EPA acknowledged that “after promulgation and implementation of the 316(b) rule, the rule may allow as many as 215 T&E species and 30 habitats of T&E species to continue to be affected.”¹ We wish to make six points in this regard:

- First, in light of the acknowledged effects on T&E species, if EPA were to issue the final rule in the absence of a final Biological Opinion from each Service, the agency would be in clear violation of ESA § 7(a)(2) and 50 C.F.R. § 402.14. Contrary to EEI and UWAG’s assertions, the law is crystal clear that all future fish kills and thermal discharges at regulated facilities are legally attributable to EPA’s upcoming rule. There is no such thing as “baseline impingement and entrainment” or “baseline thermal discharges”; to the contrary, the ***ESA baseline assumes that the plants and their intake structures have been built, but are not operating***.² Consequently, there is no legal or factual basis on which the Services could “vacate the consultation” as requested by Senator Vitter, *et al.*, or conclude the consultation with a “not likely to adversely affect” concurrence, as requested by EEI and UWAG.
- Second, EPA should make clear in the 316(b) rule that nothing in the Section 7 consultation process can eliminate the duties of state agencies, federal agencies and plant operators to comply with the ESA Section 9 prohibition against taking listed species or modifying their critical habitat. EPA recognizes that “any take of listed species without an incidental take statement or ESA Section 10 take permit is in violation of ESA regulations.”³ As previously explained, the record provided by EPA to the Services precludes issuance of an Incidental Take Statement (ITS) that would insulate future take or habitat modification from ESA protections.⁴

¹ Letter from Robert K. Wood, Director, Engineering and Analysis Division, EPA Office of Water, to Donna Wieting, Director, Officer of Protection Resources, NMFS, and Gary Frazer, Assistant Director, Endangered Species, USFWS, June 18, 2013, at 2.

² See Comments of Riverkeeper, *et al.* regarding ESA Biological Evaluation for CWA Section 316(b) Rulemaking, October 31, 2013, (“RK Comments”) at 9-17 (citing *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 929 (9th Cir. 2008) and other authority).

³ ESA Biological Evaluation for CWA Section 316(b) Rulemaking, June 18, 2013, (“BE”) at 65.

⁴ RK Comments at 44-45.

EPA, USFWS and NMFS

March 13, 2014

Page 3 of 12

- Third, the record is also insufficient to support a “no jeopardy” finding, particularly in light of harm to a number of salmonid and sturgeon Distinct Population Segments and various species of freshwater mussel.⁵ Closed-cycle cooling (CCC) technology must be the focus of any Reasonable and Prudent Alternative (RPA) analysis or Reasonable and Prudent Measures (RPM) analysis because it reduces fish kills and thermal discharges by approximately 98 percent and no other technology comes anywhere close.⁶
- Fourth, if the 316(b) rule directs permit writers to make any Best Technology Available (BTA) determinations on a case-by-case basis, the rule must require that EPA and the Services remain involved in permitting, in both delegated and non-delegated states, to identify the appropriate control requirements to be included in NPDES permits to protect listed species. Contrary to EEI’s assertion, the ESA and CWA provide for those agencies’ continuing involvement. For example, an ITS must establish clear triggers for subsequent consultation if there is a risk of jeopardizing the species.⁷ Further, as the action agency, EPA must report on “the progress of the action and its impact on the species to the Service[s].”⁸ Indeed, EPA and the Services agreed in their 2001 MOA to coordinate with State and Tribal permitting agencies to remove or reduce detrimental impacts of any NPDES permit on listed species, including, in appropriate cases, by EPA “objecting to and Federalizing the permit...”⁹
- Fifth, to implement that process, the 316(b) rule must require permittees to undertake robust monitoring, including the use of environmental metagenomic sampling to detect the presence of listed species near an intake. Because T&E species are, by definition, rare, they may not be collected or observed in limited, traditional sampling events despite being impinged and entrained.
- Sixth, the rule must require the submittal of comprehensive information on the potential for **direct and indirect impacts** to listed species, including impacts to listed species’ prey. EEI’s opposition to collecting information regarding the taking of prey or other indirect impacts to T&E species has no statutory basis. Avoiding “jeopardy” and avoiding “adverse modification of critical habitat” are separate and independent requirements.¹⁰ Further, the taking of prey may

⁵ RK Comments at 44-45.

⁶ RK Comments at 35-38, 39-42.

⁷ See *Miccosukee Tribe of Indians v. United States*, 566 F.3d 1257, 1271-72 (11th Cir. 2009) (citing 50 C.F.R. § 402.14(i)(4)).

⁸ 50 C.F.R. § 402.14(i)(3).

⁹ Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act, January 2001, at 20.

¹⁰ *Sierra Club v. U.S. Fish and Wildlife Service*, 245 F.3d 434, 441-43 (5th Cir. 2001).

EPA, USFWS and NMFS
 March 13, 2014
 Page 4 of 12

constitute either a take of listed species or adverse modification of critical habitat,¹¹ and both must be avoided.

II.

Definition of New Units at Existing Facilities

In promulgating the Phase I Section 316(b) rule in 2001, EPA established Best Technology Available (BTA) standards for cooling water intake structures at new facilities based on closed-cycle cooling (CCC), a 0.5 foot-per-second maximum intake velocity, and a prohibition against withdrawals that are disproportionate to the size of the waterbody.¹² Throughout the administrative and judicial review processes, industry argued that CCC and the other standards should not be considered BTA or that BTA for new facilities should be determined case-by-case. Those arguments were fully considered and rejected, first by EPA and then by the court when it upheld the Phase I rule in 2004.¹³

In the context of the current existing facility rulemaking, a decade later, EPA is *not* reconsidering BTA for new facilities or comparing the merits of CCC with once-through cooling – an antiquated technology rarely installed in plants built since the 1980s. That debate was settled at the federal level long ago, in the first term of the Bush administration. The ***only remaining question concerns the retrofitting*** of CCC on existing facilities and whether those facilities can meet the velocity limits and proportional flow requirements.

The Phase I rule did not establish standards for new units built at existing facilities. Nor did EPA determine that such units were to be treated as existing facilities. Rather, EPA deferred regulation of those units until it had completed analysis of data on existing facilities.¹⁴ Having completed that analysis, the draft proposed rule EPA sent to OMB shortly before proposal in 2011 required that “[n]ew units constructed at an existing facility ... comply with provisions for impingement and entrainment mortality based on closed-cycle [cooling] that are similar to those required in the Phase I new facility rule.”¹⁵ That was appropriate because new units – including rebuilt, repowered and replaced units – are like new facilities; they do not encounter retrofitting issues.

Accordingly, the draft proposed rule defined new unit at an existing facility to

¹¹ See, e.g., 64 Fed. Reg. 60727, 60730 (Nov. 8, 1999) (NMFS adopting USFWS’s definition of harm, and noting that “[r]emoving ...fish ... or other biota required by the listed species for feeding” can constitute a take).

¹² See 40 C.F.R. § 125.84; see also generally 66 Fed. Reg. 65256 - 65345 (Dec. 18, 2001).

¹³ *Riverkeeper, Inc. v. EPA*, 358 F.3d 174, 197 (2d Cir. 2004) (“*Riverkeeper I*”) (“The EPA considered all of the factors that UWAG now raises...”).

¹⁴ 66 Fed. Reg. at 65286.

¹⁵ See EPA-HQ-OW-2008-0667-1295.2 (redline-strikeout version documenting changes made during Executive Order 12866 review) (hereinafter, “Redlined Version of Proposed Rule”) at 2.

EPA, USFWS and NMFS

March 13, 2014

Page 5 of 12

include “rebuilt, repowered, or replaced unit[s].”¹⁶ EPA further defined “rebuilt” with reference to “major modifications affecting operation of the cooling water intake structure such as replacement of the turbine, boiler, or condensers” and defined “repowering” to mean rebuilding and replacing major components of a power plant instead of building a new one.”¹⁷ After many years of careful analysis by its engineers and economists, EPA explained why installing CCC at rebuilt, repowered and replaced units is unlike a retrofit:

As [older] units are retired and replaced based on individual facility circumstances, facilities have the ideal opportunity to design and construct the new units without many of the additional expenses associated with retrofitting an existing unit to closed-cycle. ... [D]owntime ... may be avoided or minimized [...] ... condensers can be configured for closed-cycle, reducing energy requirements, and high efficiency cooling towers can be designed as part of the unit replacement allowing for installation of smaller cooling towers.¹⁸

In summary, ... repowering, replacement, and additional unit installation decisions can be accomplished feasibly and with lower costs than retrofitting an entire existing facility... New units are similar to new facilities, regardless of whether that unit is a green field construction, an additional unit, a replacement unit, or a repowered unit. ... [N]ew units [also] would be similar to new facilities in terms of the useful expected plant life...¹⁹

... EPA considered whether such requirements ... would serve as a disincentive to replace older units and determined that this would not be the case given closed-cycle cooling’s comparable cost relative to once through cooling and its small cost as a percentage of overall costs at the new unit. ... Furthermore, the costs usually comprise less than 1 percent of the total costs of a new unit. Recent experience indicates that the Phase I requirements are not a disincentive for new facility construction...²⁰

Shortly before proposal in the Federal Register, however, for reasons unknown and wholly unexplained, OMB changed the definition of new units at existing facilities to exclude rebuilt, repowered or replacement units.²¹ That change should not have been made and, indeed, EPA has reconsidered it. According to EEI’s recent letters, EPA’s current approach more closely aligns with the February 2011 draft proposal in that the definition

¹⁶ *Id.* at 423 (proposed 40 C.F.R. § 125.92(r)).

¹⁷ *Id.* at 423 (40 C.F.R. §§ 125.92(r) and 125.92(t)).

¹⁸ *Id.* at 92-93.

¹⁹ *Id.* at 147.

²⁰ *Id.* at 147-148.

²¹ Proposed 40 C.F.R. § 125.92(r).

EPA, USFWS and NMFS
 March 13, 2014
 Page 6 of 12

of new unit at existing facility includes repowered, replaced or rebuilt units, so long as the turbine and condenser are replaced (and the location of the cooling water intake structure or design intake flow is changed).²²

There is no factual or legal basis for EEI's request that repowered, replaced or rebuilt units be excluded from the definition of new unit at an existing facility. As noted, EPA has considered and rejected EEI's argument that a CCC requirement would be a disincentive to upgrade or repower facilities. EEI also rehashes its argument that "EPA's authority under § 316(b) extends only to the *cooling water intake structure*."²³ But for nearly four decades EPA has recognized that Section 316(b) authorizes it to regulate the volume and velocity of water withdrawn through a cooling water intake structure as a means of addressing capacity.²⁴ That authority is no different for new units than for new or existing facilities and does not depend on whether the intake structure or anything else has been modified. Moreover, given that existing facilities can be subjected to stricter requirements during permit renewal in the absence of any change to the facility,²⁵ there is obviously no legal impediment to regulating modified units in the absence of changes to the intake or design flow.

For those reasons, EPA should not define new unit based on whether the location of the intake structure or design intake flow will change. Using turbine and condenser replacement as the sole touchstone for rebuilt, repowered and replaced units is consistent with EPA's statutory authority, and properly recognizes that such units are, for all intents and purposes, new facilities.

If the electric power industry were given authority to repower the nation's existing fleet of antiquated, destructive once-through-cooled power plants by installing new boilers, new condensers and new turbines without also replacing their 1950s cooling systems, EPA would create an enormous loophole that would swallow not only the existing facility rule, but also the Phase I rule for new facilities as well.

Notably, the last time EPA (or OMB) attempted an Orwellian re-write of the definitions of "new" and "existing," that aspect of the Phase II rule was remanded by the Second Circuit, with the court noting that no deference is owed to an agency interpretation that is "plainly erroneous."²⁶

²² EEI Dec. 20, 2013 letter at 3.

²³ EEI Sept. 17, 2013 letter at 3 (emphasis in original).

²⁴ See 66 Fed. Reg. at 65313 (citing *In re Brunswick Steam Electric Plant*, Decision of the General Counsel No. 41 (June 1, 1976)).

²⁵ Entergy's argument that Section 316(b) imposes only a *pre*-construction requirement and does not allow EPA to later revisit the design, location, capacity or construction of an existing plant's cooling water intake structure was rejected by the Second Circuit in *Riverkeeper II*. See *Riverkeeper, Inc. v. EPA*, 475 F.3d 83, 121-23 (2d Cir. 2007)

²⁶ *Riverkeeper II*, 475 F.3d at 117-20 (citing *Fowlkes v. Adamec*, 432 F.3d 90, 97 (2d Cir. 2005)).

EPA, USFWS and NMFS
 March 13, 2014
 Page 7 of 12

III.

Permit Application Requirements & Deadlines

EEl has asked EPA to “[p]rovide a minimum of five years for all facilities to complete the permit application requirement.”²⁷ Allowing five years to complete an application for a five-year permit would be patently excessive, particularly since it has long been clear to industry what information it will need to submit. As EPA noted in the proposal, many of the regulated facilities were previously subject to the withdrawn Phase II rule and should have already compiled much of the proposed application data, which can be used to meet many of the information submittal requirements.²⁸ For newly covered facilities, the 2011 proposal gave them advance notice as to what the agency’s expectations are regarding application requirements.²⁹ Once the final 316(b) rule has been issued, plant operators can hit the ground running with their application materials and should be kept to a tight time frame. In light of this, the information submittal time periods are entirely too long; ***the schedule set forth in the proposal should be cut in half.***³⁰

Apart from the length of the schedule, the proposed rule’s phased approach for information submittal is a significant improvement over prior 316(b) rules because it requires facilities to submit application materials at intervals triggered by promulgation of the final rule.³¹ This is critical because certain components of an application take less time to complete than others, regulators can evaluate only so much information at any one time and may not request information expeditiously, and certain items may need to be supplemented. Tying the schedule to the rule’s promulgation date provides far greater efficiency, uniformity and transparency than if 50 permitting agencies were directed to set information submittal schedules for the 1,200 covered facilities.

Many facilities operate under long-expired, administratively-continued NPDES permits even though their renewal applications do not yet include the information needed by permit writers. As EPA is well aware, the CWA authorizes states to issue NPDES permits “for fixed terms, not exceeding five years.”³² The five-year, time-limited nature of the permit is central to Congress’s plan to press new technologies – and incrementally stricter

²⁷ EEl Dec. 20, 2013 letter at 4.

²⁸ See 76 Fed. Reg. at 22254.

²⁹ See 76 Fed. Reg. at 22248 (similar statement in context of compliance schedules).

³⁰ In addition, the Clean Water Act mandates compliance with the 316(b) rule no later than three years from promulgation. CWA Sections 301(b)(2)(C), (D), (E) & (F) and 301(b)(3)(A) & (B) require compliance “as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated....” As the courts have explained, “the time limits in sections 301 and 306 govern EPA’s duty to take action under section 316(b).” *Cronin v. Browner*, 898 F. Supp. 1052, 1059 (S.D.N.Y. 1995). The same is true with respect to permittees’ duty to comply.

³¹ 76 Fed. Reg. at 22254.

³² 33 U.S.C. § 1342(b)(1)(B).

EPA, USFWS and NMFS
 March 13, 2014
 Page 8 of 12

effluent limits – onto dischargers at regular five-year intervals.³³ Once a five-year NPDES permit expires, the Administrative Procedure Act (APA) allows licensees who have made “timely and sufficient application for a renewal or new license *in accordance with agency rules*,” to conduct “an activity of a continuing nature ... until the application has been finally determined by the agency.”³⁴

As a result of the administrative continuance of their permits, some power plants are currently operating under permits that were issued in the late 1980s or early 1990s and expired approximately 20 years ago. These plants are typically inefficient and highly polluting facilities still using antiquated technologies from that era or earlier and badly in need of technology upgrades. The generational delay in repermitting them is unacceptable and plainly contrary to the intent of Congress. Consequences should be attached to the failure of a permit applicant to complete its renewal application on a timely basis. That failure can affect the administrative continuance of an expired permit or the opportunity to contend that the putative best technology for minimizing adverse environmental impact is not available at a particular plant. ***Such a “backstop” provision is necessary to prevent dilatory plant owners from continuing to operate under 1980s and 1990s permits in the 2020s and beyond.*** EPA must do its utmost to ensure that long overdue permits are reviewed, renewed and modified as needed. EPA’s final rule should address this issue, in delegated and non-delegated states.

IV.

Cost-Benefit Analysis and EPA’s Stated Preference Survey

EPA is most assuredly *not* required to base its Section 316(b) determinations on cost-benefit analysis or to direct permit writers to do so. In EPA’s very first 316(b) rule, the agency stated: “No comparison of monetary costs with the social benefits of minimizing adverse environmental impacts, much less a formal, quantified ‘cost/benefit’ assessment is required by the terms of [§ 316] of the Act.”³⁵ More recently, “[i]n *Entergy Corp. v. Riverkeeper*, the Supreme Court has now made pellucid that the EPA may but is not required to engage in cost-benefit analyses for CWIS rule making.”³⁶

Furthermore, as Justice Breyer noted in *Entergy*, Congress “intended the law’s text to be read as *restricting ... the use of cost-benefit comparisons*. ... [because] the Act’s sponsors ... feared that such analyses would emphasize easily quantifiable factors over more qualitative factors (particularly environmental factors, for example, the value of preserving nonmarketable species of fish).”³⁷ Justice Breyer was particularly concerned

³³ See *NRDC v. EPA*, 822 F.2d 104, 123 (D.C. Cir. 1987).

³⁴ 5 U.S.C. § 558(c) (emphasis added).

³⁵ 41 Fed. Reg. 17387, 17388 (Apr. 26, 1976).

³⁶ *ConocoPhillips Co. v. EPA*, 612 F.3d 822, 837 (5th Cir. 2010).

³⁷ *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 232 (2009) (Justice Breyer, concurring).

EPA, USFWS and NMFS
 March 13, 2014
 Page 9 of 12

about “futile attempts at comprehensive monetization.”³⁸ Justice Scalia’s majority opinion similarly acknowledged that “arguments may be available to preclude such a rigorous form of cost-benefit analysis as that which was prescribed under the statute’s former BPT standard, which required weighing ‘the total cost of application of technology’ against ‘the ... benefits to be achieved.’”³⁹

Notably, EPA chose not to rely on cost-benefit considerations in developing its Phase III rule for new oil rigs, and neither that rule nor the Phase I rule include a cost-benefit variance. Both were upheld in court.⁴⁰ EPA’s reason to eschew cost-benefit analysis in Phase III was plain: “it did not have enough information to perform a *meaningful* cost-benefit analysis.”⁴¹ The Fifth Circuit agreed, explaining that “[t]he agency’s decision to regulate on the basis of economic achievability was borne out by the existence of cost information but not benefit information.”⁴²

EEI now asks EPA to *require* permit writers to rely on quantified, monetized cost-benefit analysis but to *prevent* them from using stated preference methods for valuing ecological benefits.⁴³ EPA must decline that request because doing so would guarantee the development of meaningless and futile analyses of the kind that Justice Breyer warned against in Phase II. The lack of meaningful benefits information is exactly the reason EPA did not employ cost-benefit analysis in Phase III, and it would also violate the Clean Water Act in ways that Justices Breyer and Scalia foreshadowed. States have informed EPA of the enormous difficulties in placing an accurate dollar value on aquatic resource impacts. And EPA itself recently noted that the “difficult, time-consuming and expensive” process of cost-benefit analysis “will rarely be sustainable for individual permits.”⁴⁴ **Accordingly, EPA should not mandate cost-benefit analysis as a part of the permit issuance process** because it would result in 1,200 meaningless cost-benefit analyses.

Furthermore, to the extent that cost-benefit analysis is allowed as a *voluntary* component of permitting, the analysis must fully value all benefits by using the data from EPA’s regional and national stated preference survey. EEI and the Senators’ attempt to malign stated preference methods as “controversial” or “inappropriate” is belied by EPA and OMB’s guidelines for regulatory analysis. Those guidelines have long recognized that such methods are not only appropriate and well-established economic tools, but also that they are *necessary* to a complete benefits analysis:

³⁸ *Id.* at 235.

³⁹ *Entergy*, 556 U.S. at 223.

⁴⁰ *ConocoPhillips* at 833-42; *see also Riverkeeper I*, 358 F.3d 174.

⁴¹ *ConocoPhillips*, 612 F.3d at 838 (emphasis added).

⁴² *Id.* at 842.

⁴³ EEI Sept. 17, 2013 letter at 2-3; EEI Dec. 20, 2013 letter at 2-3.

⁴⁴ EPA - New England, Clean Water Act NPDES Permitting Determinations for the Thermal Discharge and Cooling Water Intake Structures at Merrimack Station in Bow, New Hampshire NPDES Permit No. NH 0001465 at 327.

EPA, USFWS and NMFS
 March 13, 2014
 Page 10 of 12

Stated Preference Methods (SPM) have been developed and used in the peer-reviewed literature to estimate both “use” and “non-use” values of goods and services. They have also been widely used in regulatory analyses by Federal agencies... A stated-preference study may be the *only* way to obtain quantitative information about non-use values...⁴⁵

Because biological diversity and other non-use values are invariably significant in this context – typically they account for 98 percent of the total benefits⁴⁶ – conducting cost-benefit analyses without stated preference methods would result in virtually all of the benefits being zeroed out, thereby guaranteeing a completely useless analysis. The national and regional cost-benefit study EPA conducted in the context of the rulemaking represents the most comprehensive and rigorous effort yet to monetize all of the benefits of reducing impingement and entrainment. States have neither the time nor resources to conduct their own stated preference surveys. EPA’s survey showed that the economic benefits of minimizing impingement and entrainment dramatically exceed the costs.⁴⁷ The use of those data in the plant-specific context would be manifestly more reliable than placing a zero value on benefits that are known to exist and that in the aggregate vastly outweigh the costs.

Accordingly, if permit writers are permitted to undertake cost-benefit on a voluntary basis, or to accept such analyses prepared by permit applicants, they should be prohibited from using any such analysis that does not take full account of all benefits, including ecological benefits, on equal footing with all other benefits and costs.

V.

Low Capacity Utilization Units (“Peakers”)

EEI also asks EPA to “specify a capacity factor or flow rate below which the final rule’s requirements will not apply,” based on its unsupported assertion that low capacity utilization units (*i.e.*, “peakers”) have “little risk” of adverse environmental impact.⁴⁸

⁴⁵ OMB Circular A-4 at § 4 (emphasis added); *see also* EPA, Guidelines for Preparing Economic Analyses.

⁴⁶ As EPA has explained, 98.2 percent of the aquatic organisms affected by intake structures are not harvested and thus do not go to market. 69 Fed. Reg. 41576, 41661 (July 9, 2004).

⁴⁷ *See* Comments on EPA’s Section 316(b) Stated Preference Survey, Dr. Frank Ackerman, Stockholm Environment Institute-US Center, Tufts University, July 10, 2012. Notably, the Senators cite a NERA Consulting report prepared for UWAG and EEI for the proposition that the stated preference survey estimates benefits to be \$2.275 billion annually for EPA’s preferred option and five times the value of the costs. *See* July 22, 2013 letter from Senator Vitter, et al., to EPA at 2.

⁴⁸ EEI Sept 17, 2013 letter at 4-5; *see also* EEI Dec. 20, 2013 letter at 4.

EPA, USFWS and NMFS

March 13, 2014

Page 11 of 12

In fact, as state regulators have found, there is “no predictable relationship” between capacity factor and cooling water use.⁴⁹ There are several reasons for this, including that cooling water systems at non-baseload facilities may be operated more than is necessary to condense steam.⁵⁰ Further, “non-targeted reductions” in cooling water use may have little effect on reducing adverse environmental impact because the “driving factors” influencing entrainment and impingement at a facility are the “seasonal dimension of both energy demand and fish reproductive and migratory life history.”⁵¹ In other words, peaking and load-following facilities can have a disproportionately large adverse environmental impact on aquatic resources if they operate when biological activity is high. In addition, many facilities that now operate as peakers or load-following units were originally designed as baseload units but are no longer efficient enough to be operated regularly. This means that they also have a disproportionately large adverse impact on air quality and climate relative to more efficient baseload facilities.

Moreover, a plant’s past operational history does not guarantee that it will run infrequently in the future, due to changes in demand and fuel costs. Facilities should not be exempted from certain requirements based on prior capacity utilization and given free rein to ramp up operations in the future.

Consequently, if capacity factor or average flow rate is to be a component of BTA for certain facilities, the NPDES permit must contain mandatory limits on future capacity and flow. In addition, those limits must be expressed as targeted, seasonal reductions and/or be accompanied by additional requirements specifying the minimum reductions in impingement and entrainment to be achieved as a result of reduced operation, as has been done in some recent state-issued permits for peakers.

Thank you for considering these legal issues as the rulemaking is completed

Very Truly Yours,



Reed Super
Legal Director, Waterkeeper Alliance
Principal, Super Law Group



Phillip Musegaas
Hudson River Program Director
Riverkeeper, Inc.

⁴⁹ See generally New York State Department of Environmental Conservation, *The Relationship between Cooling Water Capacity Utilization, Electric Generating Capacity Utilization, and Impingement and Entrainment at New York State Steam Electric Generating Facilities*, Technical Document, July 2010, at 2.

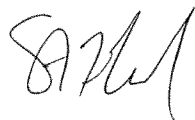
⁵⁰ *Id.* For example, plants may withdraw water when not generating electricity, or may withdraw a disproportionately high volume of water relative to kilowatt hours, in order to prevent condenser fouling; to dilute discharges; because they have single-speed intake pumps that do not allow withdrawals to be scaled down; or to cool the plant during the start-up and cool-down periods before and after operation.

⁵¹ *Id.*

EPA, USFWS and NMFS

March 13, 2014

Page 12 of 12



Steve Fleischli
Senior Attorney
Natural Resources Defense Council



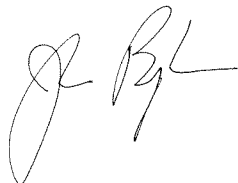
Joshua Berman
Staff Attorney
Sierra Club



Ann Brewster Weeks
Senior Counsel, Legal Director
Clean Air Task Force



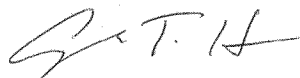
Thomas Cmar
Coal Program Attorney
Earthjustice



John Rumpler
Senior Attorney
Environment America



Charles C. Caldart
Director of Litigation
National Environmental Law Center



Angela T. Howe
Legal Director
Surfrider Foundation

cc: Bob Perciasepe, EPA Deputy Administrator
Avi Garbow, EPA General Counsel
Daniel Ashe, Director, U.S. Fish and Wildlife Service
Gary Frazer, Assistant Director, Endangered Species, USFWS
Eileen Sobeck, Assistant Administrator for NOAA Fisheries
Donna Wieting, Director, Office of Protected Resources, NMFS
Howard Shelanski, OIRA Administrator
Andrei Greenawalt, OIRA Associate Administrator
Nancy Sutley, Chair, Council on Environmental Quality
Dan Utech, Director for Energy and Climate Change, Domestic Policy Council
Robert Dreher, Acting Asst. Attorney General, Environment & Nat. Resources Div.

Case No. 12-1860

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT**

In re SIERRA CLUB and OUR CHILDREN ~~FOR~~ EARTH FOUNDATION,

Petitioners.

RESPONDENT EPA ~~FOR~~ RESPONSE TO PETITION FOR MANDAMUS

Of Counsel:

MARK STEIN

U.S. Environmental Protection
Agency

Office of Regional Counsel
5 Post Office Square 閤 Suite
(ORA 18-1)

Boston, MA 02109-3912

DAWN MESSIER

SYLVIA HORWITZ

U.S. Environmental Protection
Agency

Office of General Counsel
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

IGNACIA S. MORENO

Assistant Attorney General

AMY DONA

Environmental Defense Section
Environment & Natural Resources Div.

U.S. Department of Justice

P.O. Box 7611

Washington, D.C. 20044

Tel: (202) 514-0223

amy.dona@usdoj.gov

Attorneys for Respondents

TABLE OF CONTENTS

INTRODUCTION	1
BACKGROUND	2
I. EPA-ISSUED NPDES PERMITS	2
A. Setting Effluent Limitations in NPDES Permits	3
1. Permit Limits for Thermal Discharges	4
2. Permit Limits for Cooling Water Intake Structures.	6
B. Administrative Continuation of NPDES Permits	7
C. Procedures for the Re-Issuance of NPDES Permits	8
II. FACTUAL BACKGROUND	9
A. Region 1 NPDES Permit Program	9
B. Region 1 Action on the Facilities NPDES Permits	11
STANDARD OF REVIEW	12
ARGUMENT	13
I. SUBJECT MATTER JURISDICTION FOR JUDICIAL REVIEW OF ALLEGED UNREASONABLE DELAY OR SEEKING TO COMPEL THE ISSUANCE OF AN EPA-ISSUED NPDES PERMIT IS EXCLUSIVE IN THE COURT OF APPEALS.....	13
II. EPA IS ACTING ON THE FACILITIES NPDES PERMITS AND THE CIRCUMSTANCES HERE DO NOT WARRANT MANDAMUS	18
A. Mandamus Relief Is Not Warranted Under <i>TRAC</i> Factors	19
1. A rule of reason supports additional time in this case	20
2. Health and welfare concerns are not dispositive here	

	and do not counsel in favor of mandamus	23
3.	EPA has competing priorities which impact the time frame for action on re-issuing NPDES permits.....	25
4.	Petitioners of ha rm and prejudice do not warrant mandamus	27
5.	There is no allegation of impropriety here	28
B.	At Most, the Court Should Retain Jurisdiction While EPA Proceeds	28
CONCLUSION		30

TABLE OF AUTHORITIES

CASES

Am. Auto. Mfrs. Ass'n v. Mass. Dep't of Env'tl. Prot., 163 F.3d 74 (1st Cir. 1998)	19
Cal. Energy Comm'n v. Johnson, 767 F.2d 631 (9th Cir. 1985)	18
Chem. Mfrs. Ass'n v. EPA, 870 F.2d 177 (5th Cir. 1989)	17
City of Pittsfield, Mass. v. EPA, 614 F.3d 7 (1st Cir. 2010)	14
Clark v. Busey, 959 F.2d 808 (9th Cir. 1992)	18
Costle v. Pac. Legal Found., 445 U.S. 198 (1980)	7, 16
Crown Simpson Pulp Co. v. Costle, 445 U.S. 193 (1980)	14
Cutler v. Hayes, 818 F.2d 879 (D.C. Cir. 1987)	20
Entergy Corp. v. Riverkeeper, Inc., 556 U.S. 208 (2009)	6
EPA v. California ex rel. State Water Resources Control Bd., 426 U.S. 200 (1976)	2
George Kabeller, Inc. v. Busey, 999 F.2d 1417 (11th Cir. 1993)	13
Grand Canyon Air Tour Coal. v. Fed. Aviation Admin., 154 F.3d 455 (D.C. Cir. 1998)	22

Gulfstream Aerospace Corp. v. Mayacamas Corp., 485 U.S. 271 (1988)	1
In re Barr Laboratories, 930 F.2d 72 (D.C. Cir. 1991)	25, 26
In re City of Fall River, Mass., 470 F.3d 30 (1st Cir. 2006)	12
In re Core Commc'n, Inc., 531 F.3d 849 (D.C. Cir. 2008)	20
In re Ctr. for Auto Safety, 793 F.2d 1346 (D.C. Cir. 1986)	13, 30
In re Monroe Commc'ns Corp., 840 F.2d 942 (D.C. Cir. 1988)	26
In re United Mine Workers of Am. Int'l Union, 190 F.3d 545 (D.C. Cir. 1999)	21, 22
In re United Steelworkers of Am., AFL-CIO-CLC, v. Rubber Mfrs. Ass'n, 783 F.2d 1117 (D.C. Cir. 1986)	12
Independence Mining Co., Inc. v. Babbitt, 105 F.3d 502 (9th Cir. 1997)	12
Kerr v. U.S. Dist. Court for N. Dist. of Cal., 426 U.S. 394 (1976)	12
Kitlutsisti v. ARCO Alaska, Inc., 592 F. Supp. 832 (D. Alaska 1984)	17
Kitlutsisti v. ARCO Alaska, Inc., 782 F.2d 800 (9th Cir. 1986)	17
Kokajko v. FERC, 837 F.2d 524 (1st Cir. 1988)	28
Maine v. Thomas, 874 F.2d 883 (1st Cir. 1989)	15

Mashpee Wampanoag Tribal Council, Inc. v. Norton, 336 F.3d 1094 (D.C. Cir. 2003)	20
Nat'l Wildlife Fed'n v. Browner, No. 95-1811 (JHG), 1996 WL 601451 (D.D.C. Oct. 11, 1996), aff'd, 127 F.3d 1126 (D.C. Cir. 1997)	16
NRDC v. EPA, 859 F.2d 156 (D.C. Cir. 1988)	4, 8
Oil, Chem. & Atomic Workers Int'l Union v. Zegeer, 768 F.2d 1480 (D.C. Cir. 1985)	20
Pan-Atl. S.S. Corp. v. Atl. Coast Line R.R. Co., 353 U.S. 436 (1957)	7
Pub. Util. Comm'r of Or. v. Bonneville Power Admin., 767 F.2d 622 (9th Cir. 1985)	18
Sea Air Shuttle Corp. v. United States, 112 F.3d 532 (1st Cir. 1997)	13
Sierra Club v. Thomas, 828 F.2d 783 (D.C. Cir. 1987)	12, 15, 21, 23, 25
Telecomms. Research & Action v. FCC (TRAC), 750 F.2d 70 (D.C. Cir. 1984)	13, 14, 20, 21, 28, 30
Towns of Wellesley, Concord and Norwood, Mass. v. FERC, 829 F.2d 275 (1st Cir. 1987)	19

RULES

Fed. R. App. P. 43(c)(2)	1
--------------------------------	---

STATUTES

5 U.S.C. § 551(8)	7
5 U.S.C. § 552	27

5 U.S.C. § 558	22
5 U.S.C. § 558(c)	7, 8
5 U.S.C. § 559	7
5 U.S.C. § 706(1)	16
33 U.S.C. § 1251(a)	2
33 U.S.C. § 1311	2
33 U.S.C. § 1311(a)	2
33 U.S.C. § 1311(b)(1)(C)	4
33 U.S.C. § 1311(b)(2)(A)	3, 5
33 U.S.C. § 1311(b)(2)(F)	5
33 U.S.C. § 1313	4
33 U.S.C. § 1314(b)	3
33 U.S.C. § 1314(b)(2)(B)	3
33 U.S.C. § 1326(a)	5
33 U.S.C. § 1326(b)	6
33 U.S.C. § 1342	2
33 U.S.C. § 1342(a), (b)	9
33 U.S.C. § 1342(a)(1)(B)	3
33 U.S.C. § 1342(b)(1)(B)	7, 21
33 U.S.C. § 1362(6)	4

33 U.S.C. § 1365(a)(2)	15, 18
33 U.S.C. § 1369(b)	9
33 U.S.C. § 1369(b)(1)(F)	14

STATE STATUTES

N.H. Rev. Stat. Ann. § 485-A:8(II), (VIII)	5
--	---

STATE CODE REGULATIONS

314 Mass. Code Regs. 4.03(1)(a), 4.05(3)(b)(2)(a), (b) (2013)	5
N.H. Code R. Env-W1 1703.01(b) & 1703.13(b)	5

CODE OF FEDERAL REGULATIONS

40 C.F.R. § 122.4(d)	3
40 C.F.R. § 122.6	8, 16, 27
40 C.F.R. § 122.21	8
40 C.F.R. § 122.21(d)	8
40 C.F.R. § 122.21(g)(13)	8
40 C.F.R. § 122.41-50.....	3
40 C.F.R. § 122.44(b)(3)	4, 6
40 C.F.R. § 122.44(d)(1)	4
40 C.F.R. § 122.49	3
40 C.F.R. pt. 123	9

40 C.F.R. § 124.3	8
40 C.F.R. § 124.3(c)	8
40 C.F.R. § 124.6	8
40 C.F.R. § 124.6(e)	9
40 C.F.R. § 124.8(a)	9
40 C.F.R. § 124.9	9
40 C.F.R. § 124.10	27
40 C.F.R. § 124.10(b)(1)	9
40 C.F.R. § 124.15	9
40 C.F.R. § 124.17	9
40 C.F.R. § 124.19	9
40 C.F.R. pt. 125, Subpart H	5
40 C.F.R. § 125.3(c)(2), (d)	3, 4, 5
40 C.F.R. § 125.73(c)	6
40 C.F.R. § 125.90(b)	6
40 C.F.R. § 130.3	4
40 C.F.R. pts. 405-471	3
40 C.F.R. pt. 423	4

FEDERAL REGISTER

45 Fed. Reg. 33,290 (May 19, 1980)	8
--	---

GLOSSARY

APA	Administrative Procedure Act, 5 U.S.C. §§ 551-559, 701-706
BAT	Best Available Technology, <i>see</i> 33 U.S.C. §§ 1311(b)(2)(A), 1314(2)(B); 40 C.F.R. § 125.3 (a)(2)(iv)
BPJ	Best Professional Judgment, <i>see</i> 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(a)(2)(iii)(B), (a)(2)(v)(B), (c)(2), (d)
BTA	Best Technology Available, <i>see</i> 33 U.S.C. § 1326(b); 40 C.F.R. § 125.90(b)
CWA	Clean Water Act, 33 U.S.C. §§ 1251, <i>et seq.</i>
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act, 16 U.S.C. §§ 1531, <i>et seq.</i>
MW	Megawatt (<i>i.e.</i> , one million watts of electricity)
NPDES	National Pollutant Discharge Elimination System, <i>see</i> 33 U.S.C. § 1342
WQS	Water quality standards, <i>see</i> 33 U.S.C. §§ 1311(b)(1)(C), 1313

INTRODUCTION

Respondents, the United States Environmental Protection Agency; Bob Perciasepe, in his official capacity as Acting Administrator, United States Environmental Protection Agency;¹ and Curt Spalding, in his official capacity as Regional Administrator, Region 1, United States Environmental Protection Agency (collectively EPA and the Agency) offer the following response to the petition for mandamus filed by Petitioners Sierra Club and Our Children's Earth Foundation² (collectively Petitioners).

Petitioners seek to compel EPA action by Petitioners preferred deadlines on National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act (CWA) for two steam electric power plants, Mt. Tom Station (Mt. Tom) Massachusetts, and Schiller Station (Schiller) New Hampshire (collectively the Facilities). Petition at 1. Issuance of a writ of mandamus is extraordinary remedy, to be reserved for extraordinary situations. *Gulfstream Aerospace Corp. v. Mayacamas Corp.*, 485 U.S. 271, 289 (1988). As discussed below, the resources required to issue a single NPDES permit to a steam electric power plant are extensive. EPA Region 1 (the EPA regional office responsible for

¹ Pursuant to Fed. R. App. P. 43(c)(2), Bob Perciasepe, the Acting Administrator of EPA, is automatically substituted for Respondent Lisa Jackson.

² Sierra Club has filed three affidavits in support of its standing to bring this petition for writ of mandamus; Our Children's Earth Foundation has not attempted to demonstrate standing. See Petition Add. at 131-40. ³

these permits) is currently working on the NPDES permits and has a schedule for completing the complex technical, ecological, and economic analyses needed to draft these permits. However, the Region ~~resources~~ resources are limited, and these permits must be balanced against a number of competing priorities before the Region. Given these considerations, the Court should deny the mandamus petition.

BACKGROUND

I. EPA-ISSUED NPDES PERMITS

Congress enacted the CWA ~~to~~ to restore and maintain the chemical, physical, and biological integrity of the Nation ~~waters~~ waters through the reduction and eventual elimination of pollutant discharges to these waters. 33 U.S.C. § 1251(a). To accomplish this end, the CWA establishes a comprehensive regulatory program, key elements of which are: (1) a prohibition on the discharge of pollutants from point sources to waters of the United States, except as authorized by the CWA, *id.* § 1311(a); and (2) authority for EPA or authorized States or Tribes to issue NPDES permits that regulate the discharge of pollutants, *id.* § 1342, through technology-based effluent limitations and, as necessary to meet state water quality standards, more stringent water quality-based effluent limitations, *id.* § 1311.³ *EPA v. California ex rel. State Water Resources Control Bd.*, 426 U.S. 200, 205 (1976).

³ NPDES permits also mandate pollutant discharge monitoring and reporting requirements, various best management practices, and other steps to control and

(footnote continued . . .)

A. Setting Effluent Limitations in NPDES Permits

Effluent limitations in an NPDES permit must, at a minimum, satisfy applicable technology-based standards. Technology-based effluent limitations are requirements based on the degree of pollution control that can be achieved by application of the specified level of treatment technology. See, e.g., 33 U.S.C. §§ 1311(b)(2)(A), 1314(b)(2)(B) (limits based on the best available technology economically achievable are to be met by March 31, 1989).

For certain industries, EPA has established effluent limitations guidelines through nationally-applicable regulations, which are the basis for technology-based limits in permits issued to facilities in those industrial categories. See 40 C.F.R. pts. 405-471. In the absence of such categorical guidelines, technology-based limits in permits are based on the applicable technology standards and are determined by permitting agencies on a case-by-case basis using best professional judgment (BPPJ). See 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(c)(2), (d). This case-specific analysis is, in essence, a mini-guidelines, which the permit writer, after full consideration of the factors set forth in section 304(b), 33 U.S.C. § 1314(b), . . . establishes the permit conditions necessary to carry out the provisions of [the CWA].

reduce water pollution. See 40 C.F.R. § 122.41-50. The NPDES permit-writing process must also account for other considerations such as whether discharge into the waters of one state may cause a violation of water quality standards in a downstream state, *id.* § 122.4(d), and other federal laws, *id.* § 122.49.⁴

§ 1342(a)(1). *NRDC v. EPA*, 859 F.2d 156, 199 (D.C. Cir. 1988); see also 40 C.F.R. § 125.3(c)(2), (d).

In addition to technology-based limits, an NPDES permit also must include any more stringent limits necessary to comply with applicable state water quality standards (33 U.S.C. § 1311(b)(1)(C). This requires additional analysis for each discharged pollutant. State WQS specify designated uses that the state waterways must support, such as high quality fish habitat or primary contact recreation, and specify narrative and numeric criteria, such as specific ambient water temperatures or levels of dissolved oxygen saturation. *Id.* § 1313; 40 C.F.R. § 130.3. Water quality-based effluent limitations are determined by, in essence, back-calculating from the applicable WQS to determine the discharge limits needed to ensure compliance with those standards. 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1).

1. Permit Limits for Thermal Discharges

For many steam electric power plants, including Mt. Tom and Schiller, heat is one of the pollutants that the NPDES permits must address. See 33 U.S.C. § 1362(6); 40 C.F.R. § 122.44(b)(3). In 1982, EPA revised the effluent limitations guidelines for the steam electric category, but did not set limits for thermal discharges. 40 C.F.R. pt. 423. Thus, while an NPDES permit for a steam electric power plant must include technology-based limits in accordance with the guideline, for thermal discharges, EPA must perform a case-by-case BPT analysis. The technology standard for heat is the best available treatment technology economically achievable (BATE), requires

analysis of the technological, environmental, and economic factors specific to each power plant. See 33 U.S.C. § 1311(b)(2)(A), (F). Accordingly, when determining a technology-based effluent limitation for heat in a power plant permit, EPA evaluates the age of the equipment and facilities involved, the process employed, the engineering aspects of various types of control techniques, process changes, the cost of achieving pollutant reduction, and non-water quality environmental impacts (including energy requirements). See 40 C.F.R. § 125.3(c)(2), (d).

Likewise, water quality-based effluent limitations must be determined on a case-by-case basis in light of the state WQS applicable to the water body receiving the discharge. Both Massachusetts and New Hampshire have WQS pertaining to the thermal condition of their waters. See 314 Mass. Code Regs. 4.03(1)(a), 4.05(3)(b)(2)(a), (b) (2013) (Massachusetts WQS related to thermal discharges); N.H. Rev. Stat. Ann. § 485-A:8(II), (VIII) and N.H. Code R. Env-Wq 1703.01(b) and 1703.13(b) (New Hampshire WQS related to thermal discharges).

In addition, the CWA also includes a unique variance provision for thermal discharges. Under CWA section 316(a), 33 U.S.C. § 1326(a), a thermal discharger may qualify for less stringent technology and water quality-based effluent limitations if it can demonstrate that less stringent effluent limitations will nevertheless assure the protection and propagation of the receiving water body ~~and~~ balanced, indigenous population of shellfish, fish, and wildlife. See *also* 40 C.F.R. pt. 125, Subpart H. A request for a thermal discharge variance under CWA section 316(a) requires additional

site-specific scientific analysis of the proposed discharge and its effects, in conjunction with other sources of impact. See *id.* § 125.73(c).

2. Permit Limits for Cooling Water Intake Structures

Pursuant to CWA section 316(b), NPDES permits must also include requirements ensuring that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact, 33 U.S.C. § 1326(b). The primary environmental concern associated with intake structures is that aquatic life (e.g., fish eggs and larvae, juvenile and adult fish, and other organisms) will be pulled from the water body along with the cooling water and be killed or damaged. See *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 213 (2009).

The regulatory landscape for cooling water intake structures has been in flux over the past 20 years. See, e.g., *id.* at 213-17. EPA is presently scheduled to take final action on proposed nationally applicable standards governing intake structures at existing facilities, such as Mt. Tom and Schiller, by June 27, 2013. Declaration of David Webster (Dec 15 2013). However, in the absence of such regulations, section 316(b) conditions must be determined on a case-by-case BPJ basis. 40 C.F.R. §§ 122.44(b)(3), 125.90(b). To determine the BTA for a specific facility, EPA compares available technological alternatives, determines which are feasible and which achieve the greatest reductions in adverse environmental impacts, as well as the cost of each

option, its non-water environmental effects, its energy effects, and a comparison of its costs and benefits to determine if those costs are warranted. *Id.*

B. Administrative Continuation of NPDES Permits

CWA section 402(b)(1)(B) provides that NPDES permits have fixed terms up to five years, but the statute itself does not expressly address the effect of the expiration of those permits at the end of the stated term. 33 U.S.C. § 1342(b)(1)(B). Section 9(b) of the Administrative Procedure Act (5 U.S.C. § 551), however, provides the general administrative rule⁴ that applies to applications for renewal of a license or permit⁵:

When the licensee has made timely and sufficient application for a renewal or a new license in accordance with agency rules, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency.

5 U.S.C. § 558(c). In *Costle v. Pacific Legal Foundation*, the Supreme Court explicitly recognized that the APA mandates continuance of an NPDES permit past its stated term if a timely and sufficient application has been filed but final agency action on the application has yet to occur. 445 U.S. 198, 210-11 n.10 (1980) (5 U.S.C. § 558(c)). Because the EPA has not yet acted upon the city application . . . for a new NPDES permit, the terms and

⁴ Congress made clear its intent that the APA sets forth the general rules governing federal administrative procedure by establishing that a [subsequent] statute may not be held to supersede or modify [the APA] except to the extent that it does so expressly. *Id.* § 559; see also *Pan-Atl. S.S. Corp. v. Atl. Coast Line R.R. Co.*, 353 U.S. 436, 439 (1957) (upholding ICC extension of a temporary permit beyond the 180-day statutory limit because 5 U.S.C. § 558(c) supplemented the time limit).

⁵ The APA defines license to include whole or a part of an agency permit 5 U.S.C. § 551(8).

conditions of the 1975 permit have remained in effect by operation of law, even though the permit expiration date has now passed. See 5 U.S.C. § 558(c) 錨 (quotation from APA omitted). In 1980, shortly after the *Pacific Legal Foundation* decision, EPA promulgated a regulation expressly applying Section 9(b) of the APA to the continuation of expired NPDES permits. 45 Fed. Reg. 33,290, 33,425 (May 19, 1980), reprinted as amended at 40 C.F.R. § 122.6. The D.C. Circuit upheld the regulation, finding that it was consistent with both the CWA and the APA. *NRDC v. EPA*, 859 F.2d 156, 213-15 (D.C. Cir. 1988).

C. Procedures for the Re-Issuance of NPDES Permits

The NPDES permitting process is initiated when the discharger files a permit application providing information regarding the facility and the planned discharges. 40 C.F.R. §§ 122.21, 124.3. In the case of a permit renewal, the permittee must submit a renewal application no later than 180 days before the permit ~~exp~~ expiration. *Id.* § 122.21(d). EPA reviews the application and notifies the applicant whether the application is complete. *Id.* § 124.3(c). If the applicant submits a timely and complete application, the current NPDES permit is administratively continued. *Id.* § 122.6.

Neither the CWA nor EPA ~~imp~~ implementing regulations specifies a timeframe for issuing a NPDES permit. See *id.* § 124.6. EPA regulations provide for collection of additional information during the NPDES permit-development process. See *id.* §§ 122.21(g)(13), 124.3(c). An EPA-prepared draft permit is supported by an

administrative record, *id.* § 124.9, and accompanied by a sheet setting forth principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit, *id.* § 124.8(a). The Agency provides public notice of its proposed action and invites comment for a minimum of 30 days. *Id.* § 124.6(e). In addition, a public hearing may be held, after 30-days advance, public notice, which may extend the comment period. *Id.* § 124.10(b)(1).

EPA considers the public comments and makes its final permit decision based on the administrative record compiled during these proceedings. *Id.* § 124.15. Together with a final permit, EPA must issue written responses to public comments on the draft permit. *Id.* § 124.17. EPA-issued final NPDES permits are subject to judicial review in federal court following an administrative appeal to EPA Environmental Appeals Board. 33 U.S.C. § 1369(b); 40 C.F.R. § 124.19.

II. FACTUAL BACKGROUND

A. Region 1 NPDES Permit Program

The NPDES permit program may be administered by EPA or by states that have sought and obtained authorization to do so from EPA. See 33 U.S.C. § 1342(a), (b); 40 C.F.R. pt. 123. Within Region 1, EPA issues NPDES permits to facilities located in Massachusetts and New Hampshire, as well as certain other NPDES permits under various circumstances, and oversees and assists with the NPDES programs administered by Connecticut, Maine, Rhode Island, and Vermont. Decl. ¶ 9. Region

1 is responsible for issuing more major NPDES permits than any other EPA Regional office. *Id.* ¶ 26.

There is currently a backlog of NPDES permits that have been administratively-continued in Region 1 and throughout the United States. *Id.* ¶ 27. EPA has been tracking this backlog since 1999 and is working diligently to address it. *Id.* ¶ 28. Region 1 is working to reduce the backlog by prioritizing the permits of greatest environmental and programmatic significance, while simultaneously not ignoring any individual permit or category of permits, and has made progress in reducing its backlog with this approach. *Id.* ¶¶ 29-30, 34. At present, there is a backlog of approximately 150 administratively-continued permits in Region 1. *Id.* ¶ 30.

NPDES permits for power plants, such as Mt. Tom and Schiller, present a large number of complex, specialized scientific, technical and legal issues. *Id.* ¶¶ 35-64. In addition, the already complicated legal regime has been subject to significant uncertainty due to multiple changes in the applicable national standards. *Id.* ¶¶ 37, 51-55, 72(f), 73(b)-(e).

Despite these many challenges, Region 1 has made significant progress developing NPDES permits for multiple power plants. *Id.* ¶¶ 33, 65-81. These include large plants, *e.g.*, Brayton Point Station, and smaller plants in environmentally sensitive locations, *e.g.*, Kendall Station and the Wheelabrator Saugus facility. *Id.* ¶¶ 67-77. In addition, Region 1 is in various stages of developing permits for a number of other facilities, including, but not limited to, Mt. Tom and Schiller. *Id.* ¶¶ 33, 76, 78-81.

B. Region 1 Action on the Facilities NPDES Permits

Mt. Tom is a small-to-moderate sized power plant in Holyoke, Massachusetts, capable of producing 146 megawatts (146 MW) power, but in recent years, operated at approximately 20 percent capacity. *Id.* ¶ 80(a)(i), (iv). Mt. Tom is located on a bank of the Connecticut River, a large, multi-state river which flows southward to the Long Island Sound. *Id.* ¶ 80(a)(ii). The Mt. Tom NPDES permit expired on September 17, 1997, and was administratively continued by operation of law. *Id.* ¶ 80(a)(i).

Schiller is also a small-to-moderate sized power plant in Portsmouth, New Hampshire, capable of producing 150 MW of power, but operations have recently diminished significantly, with two of three units operating near 20 percent of capacity. *Id.* ¶ 80(b)(i), (iii). Schiller is located on a bank of the Piscataqua River, a fast-flowing, cold-water river which flows into the Atlantic Ocean. *Id.* ¶ 80(b)(ii). Schiller's NPDES permit expired on September 30, 1995, and was administratively continued by operation of law. *Id.* ¶ 80(b)(i).

Since 2004, Region 1 has sent multiple information requests to both Mt. Tom and Schiller and reviewed their responses. *Id.* ¶ 81(a)-(c), (e). The Region's permit development teams have also collected in-stream temperature data in the vicinity of the Facilities thermal discharges, and conducted site visits at the Facilities in 2012 and

2013. *Id.* ¶ 81(d), (g). Region 1 has also begun necessary consultations under the Endangered Species Act (ESA) ¶ 81(e).

STANDARD OF REVIEW

Mandamus is regarded as an extraordinary writ. See *Kerr v. U.S. Dist. Court for N. Dist. of Cal.*, 426 U.S. 394, 402 (1976) (The remedy of mandamus is a drastic one, to be invoked only in extraordinary situations. Amended). Extraordinary preconditions are that the agency or official have acted (or failed to act) in disregard of a clear legal duty and that there be no adequate conventional means for review. *In re City of Fall River, Mass.*, 470 F.3d 30, 32 (1st Cir. 2006).

Regarding unreasonable delay claims such as this, an agency is entitled to substantial deference in establishing a timetable for completing administrative proceedings. *Sierra Club v. Thomas*, 828 F.2d 783, 797 (D.C. Cir. 1987). The courts have recognized that they are generally limited to review the order in which an agency conducts its business and are hesitant to upset an agency's priorities by ordering it to expedite one specific action, and thus to give it precedence over others. *Id.*

When the standard for mandamus relief is not met, the case should be dismissed. See *Sierra Club v. Thomas*, 828 F.2d at 799; *In re United Steelworkers of Am., AFL-CIO-CLC, v. Rubber Mfrs. Ass'n*, 783 F.2d 1117, 1120 (D.C. Cir. 1986). The courts also retain discretion to deny mandamus relief even when the elements for mandamus are otherwise satisfied. *Independence Mining Co., Inc. v. Babbitt*, 105 F.3d 502, 505 (9th Cir.

1997). Instead of issuing a writ, a court can retain jurisdiction to ensure that future agency action occurs in a timely manner. *In re Ctr. for Auto Safety*, 793 F.2d 1346, 1354 (D.C. Cir. 1986).

ARGUMENT

I. SUBJECT MATTER JURISDICTION FOR JUDICIAL REVIEW OF ALLEGED UNREASONABLE DELAY OR SEEKING TO COMPEL THE ISSUANCE OF AN EPA-ISSUED NPDES PERMIT IS EXCLUSIVE IN THE COURT OF APPEALS

This Court has jurisdiction over the present case is clear, contrary to Petitioners' view. Petition at 11-18. The petition asserts that EPA has unreasonably delayed in acting on two NPDES permit applications. *Id.* at 1. As this Court has recognized, it is well-established that where a statute commits exclusive jurisdiction to review an agency action to the courts of appeals, a suit challenging delay in taking that agency action is also subject to the exclusive jurisdiction of the courts of appeals. See *Sea Air Shuttle Corp. v. United States*, 112 F.3d 532, 535, 538 (1st Cir. 1997) (citing *George Kabeller, Inc. v. Busey*, 999 F.2d 1417, 1421 (11th Cir. 1993) and *Telecomms. Research & Action v. FCC (TRAC)*, 750 F.2d 70, 76 (D.C. Cir. 1984)). The D.C. Circuit in *TRAC* noted that in granting review of agency action in the Court of Appeals, Congress manifested an intent that the appellate court exercise sole jurisdiction over the class of claims covered by the statutory grant of review power. 750 F.2d at 77. Thus, in order to protect its future jurisdiction to review the final action, where a statute commits review of agency action to the Court of Appeals, any suit seeking relief that

might affect the Circuit Court ~~future~~ jurisdiction is subject to the exclusive review of the Court of Appeals. ~~Id.~~ at 78-79.

Petitioners seek an order enjoining EPA to issue new or revised NPDES permits to Mt. Tom and Schiller. See Petition at 1, 30. Under CWA section 509(b)(1)(F), EPA ~~issuance~~ or denial of an NPDES permit is subject to exclusive judicial review in the courts of appeals. 33 U.S.C. § 1369(b)(1)(F). Thus, under the doctrine recognized by the First Circuit in *Sea Air Shuttle*, a claim that asserts unreasonable delay in issuing an NPDES permit and seeks to compel the issuance of such permit is within the exclusive jurisdiction of the courts of appeals.

Congress expressly provided for judicial review of certain EPA agency actions under the CWA exclusively in the United States courts of appeals. Section 509(b)(1)(F) of the CWA vests exclusive jurisdiction in the courts of appeals to review ~~Administrator action~~ ~~action~~ . . . in issuing or denying any permit under section 1342 of [the CWA]. 33 U.S.C. § 1369(b)(1)(F); see also *Crown Simpson Pulp Co. v. Costle*, 445 U.S. 193, 196-97 (1980) (holding that the court of appeals had jurisdiction under 33 U.S.C. § 1369(b)(1)(F) to review EPA ~~decision~~ ~~decision~~ regarding a state-issued CWA section 402 permit); *City of Pittsfield, Mass. v. EPA*, 614 F.3d 7, 10 (1st Cir. 2010) (~~the CWA~~ ~~the CWA~~ gives us jurisdiction to review the EPA ~~final~~ ~~final~~ federal permit action[.] ~~The~~ ~~The~~ subject matter covered by CWA section 509 is indeed limited, as noted in the multiple cases cited in the Petition at 16-17, but the limited list of agency actions in CWA section 509 in no way limits the courts of appeals ~~protective~~ ~~protective~~ jurisdiction. There can be no

dispute that judicial review of Region 1's issuance of the Mt. Tom and Schiller NPDES permits lies within the exclusive subject matter of the court of appeals. Under the well-established doctrine of protective jurisdiction, set forth in *TRAC* and recognized by this Circuit in *SeaAir Shuttle*, jurisdiction for judicial review of this claim alleging unreasonable delay is exclusive in this Court.

The basis of Petitioners' confusion appears to be their failure to recognize the essential and mutually exclusive difference between claims that may be brought pursuant to section 505(a)(2) of the CWA and claims that assert unreasonable delay in violation of the APA. See Petition at 2, 14 (stating that they may assert additionally and alternatively both APA unreasonable delay claims and CWA section 505 mandatory duty claims in district court). CWA section 505(a)(2), the citizens suit provision, provides subject matter jurisdiction in the district courts for claims alleging EPA's failure to perform a duty that is nondiscretionary with the Administrator under the CWA. 33 U.S.C. § 1365(a)(2). In such a suit, the court may order EPA to perform [such nondiscretionary] act or duty. *Id.* However, *id.* in order to impose a clear-cut nondiscretionary duty, [the statute] must categorically mandat[e] that the Administrator perform a specified act by date-certain deadline. *Sierra Club v. Thomas*, 828 F.2d at 791; see also *Maine v. Thomas*, 874 F.2d 883, 888 (1st Cir. 1989)

(noting that a nondiscretionary duty must state ~~when~~ ~~was~~ required to take what action, ~~as~~ ~~well as~~ ~~when~~ the duty must be fulfilled ~~when~~).

The APA, on the other hand, provides for judicial review of agency action that has allegedly been ~~unreasonably~~ ~~delayed~~, 5 ~~U.S.C. § 706(1)~~, and as relevant case law makes clear, a CWA section 505(a)(2) mandatory duty cause of action and an APA cause of action for alleged unreasonable delay are distinct and mutually exclusive. An alternative claim alleging agency action unlawfully withheld or unreasonably delayed under the APA is not available where a more particular statute provides a separate remedy to enforce a mandatory duty, as does the CWA in section 505. See, e.g., *Nat'l Wildlife Fed'n v. Browner*, No. 95-1811 (JHG), 1996 WL 601451, at *6 (D.D.C. Oct. 11, 1996), *aff'd*, 127 F.3d 1126 (D.C. Cir. 1997) (~~to~~ ~~the~~ extent that the plaintiffs are attempting to sue under the APA to enforce a nondiscretionary duty under Section

⁶ In the District of Massachusetts, these Petitioners filed a complaint asserting both an APA unreasonable delay claim and two CWA section 505 mandatory duty claims. *Sierra Club v. EPA*, Case No 1:12-cv-10902 (D. Mass.). As discussed in detail in EPA ~~memorandums~~ in support of its motion to dismiss, there was no statutory basis for the mandatory duty claims asserted in the complaint. See *id.*, ECF Nos. 11, 12, 49. In brief, contrary to the allegations in the complaint, nothing in the CWA directs EPA either to deem NPDES permits terminated after the conclusion of a five-year term, or to revise NPDES permits immediately at the conclusion of a five year term. See *generally id.* Moreover, section 558(c) of title 5 of the United States Code applies to expired NPDES permits so that they are administratively continued by operation of law if a timely, complete application for renewal is filed. See *Costle*, 445 U.S. at 210-11 n.10; see also 40 C.F.R. § 122.6. Petitioners voluntarily dismissed the district court complaint on January 23, 2013. *Sierra Club*, Case No. 1:12-cv-10902, ECF No. 58.

303(c)(4)(A), [the relevant counts] will be dismissed, because APA review of mandatory duties is not available under the Clean Water Act. 鐳).

In the present case, Petitioners assert that EPA inaction on the pending permit applications constitutes unreasonable delay. Petition at 1. However, Petitioners 銑 discussion of the cases conflates the mutually exclusive CWA section 505 mandatory duty cause of action and the APA cause of action for alleged unreasonable delay. For example, Petitioners erroneously rely on the Fifth Circuit decision in *Chemical Manufacturers Association v. EPA*, 870 F.2d 177, 266 (5th Cir. 1989). Petition at 17. In *Chemical Manufacturers*, the Fifth Circuit considered a CWA claim seeking to compel EPA action to meet 銑a specific congressional mandate that the EPA control the discharge of toxic pollutants into navigable waterways. 870 F.2d at 265. The *Chemical Manufacturers* court held that it did not have jurisdiction over the CWA claim because pursuant to CWA section 505, district courts have exclusive jurisdiction over CWA mandatory duty claims. *Id.* The Fifth Circuit conclusion that district courts have exclusive jurisdiction over CWA citizen suit claims for failure to perform a mandatory duty is inapposite to Petitioners 銑 arguments regarding jurisdiction over their APA claim of unreasonable delay where a mandatory duty is not involved.

Petitioners reliance on *Kitlutsisti v. ARCO Alaska, Inc.*, 592 F. Supp. 832, 840-41 (D. Alaska 1984), is also misplaced. Petition at 18. The district court decision was vacated by the Ninth Circuit with no discussion of the district court jurisdiction. See *Kitlutsisti v. ARCO Alaska, Inc.*, 782 F.2d 800 (9th Cir. 1986). Moreover, the Ninth

Circuit subsequently adopted, and has repeatedly endorsed, the doctrine of protective jurisdiction, stating *that* where a statute commits review of final agency action to the court of appeals, any suit seeking relief that might affect the court's jurisdiction is subject to its exclusive review. *Pub. Util. Comm. v. Bonneville Power Admin.*, 767 F.2d 622, 626-27 (9th Cir. 1985); see also *Clark v. Busey*, 959 F.2d 808, 811-12 (9th Cir. 1992); *Cal. Energy Comm. v. Johnson*, 767 F.2d 631, 634 (9th Cir. 1985).

In sum, Petitioners challenge an alleged delay in EPA action on two pending NPDES permit applications, asserting unreasonable delay; they do not allege a claim that EPA has not performed an enforceable mandatory duty, pursuant to CWA section 505(a)(2), 33 U.S.C. § 1365(a)(2). Because Congress provided that judicial review of the issuance or denial of NPDES permits is exclusively in courts of appeals, under the well-established doctrine of protective jurisdiction, jurisdiction for judicial review of this claim of alleged delay is exclusive in the court of appeals.

II. EPA IS ACTING ON THE FACILITIES NPDES PERMITS AND THE CIRCUMSTANCES HERE DO NOT WARRANT MANDAMUS

Petitioners request that the Court order EPA to prepare NPDES permits for both Mt. Tom and Schiller, and seek to impose their preferred schedule, requiring draft permits in six months and final permits within an additional six months. Petition at 29. EPA recognizes that the existing permits have been administratively continued for a long time. The Agency is actively working on renewing these permits, undertaking the extensive and complex analyses necessary to develop required permit

terms, and has a plan to prepare draft NPDES permits and then take final action on the permits by June 30, 2016. Decl. ¶¶ 82-106. Petitioners' proposed schedule does not provide adequate time for the necessary scientific work or administrative process and would disrupt the Agency's other priorities. *Id.* ¶¶ 83-96. The extraordinary remedy of mandamus is not appropriate here, and the petition should be denied.

A. Mandamus Relief Is Not Warranted Under the TRAC Factors.

In cases seeking mandamus based upon claims of unreasonable agency delay, this Court has adopted factors set forth by the District of Columbia Circuit in *TRAC* as guidance for review of such claims:

- 1) a *reasonable* governs the time agencies take to make decisions; 2) delays where human health and welfare are at stake are less tolerable than delays in the economic sphere; 3) consideration should be given to the effect of ordering agency action on agency activities of a competing or higher priority; 4) the court should consider the nature of the interests prejudiced by delay; and 5) the agency need not act improperly to hold that agency action has been unreasonably delayed.

Towns of Wellesley, Concord and Norwood, Mass. v. FERC, 829 F.2d 275, 277 (1st Cir.

1987) (citing *TRAC*, 750 F.2d at 80). This test is *deferential* to administrative

agencies. *Am. Auto. Mfrs. Ass. v. Nat'l Dep't of Envtl. Prot.*, 163 F.3d 74, 82 n.9 (1st

Cir. 1998). With this guiding principle in mind, consideration of the factors here

should not result in mandamus relief.

1. A rule of reason supports additional time in this case.

The first factor is the time agencies take to make decisions must be governed by a rule of reason. *Core Commc. Inc.*, 531 F.3d 849, 855 (D.C. Cir. 2008) (quoting *TRAC*, 750 F.2d at 80). The rule of reason . . . cannot be decided in the abstract, by reference to some number of months or years beyond which agency inaction is presumed to be unlawful. *Mashpee Wampanoag Tribal Council, Inc. v. Norton*, 336 F.3d 1094, 1102 (D.C. Cir. 2003). The reasonable time frame for agency action will depend in large part on the complexity of the task at hand, the significance (and permanence) of the outcome, and the resources available to the agency. *Id.* An administrative agency is entitled to considerable deference in establishing a timetable for completing its proceedings, *Butler v. Hayes*, 818 F.2d 879, 896 (D.C. Cir. 1987), particularly when the proceedings present complex scientific and technical issues, *Oil, Chemical & Atomic Workers International Union v. Zegeer*, 768 F.2d 1480, 1488 (D.C. Cir. 1985).

A rule of reason in this case must take into account the extensive resources required for the complex analyses necessary to develop NPDES permits for steam electric power plants, and the time necessary for meaningful public process and development of the Agency response to comments, including additional scientific and technical analyses that may be necessary before final Agency action. See Decl. ¶¶ 82-93. The time required to prepare a draft NPDES permit and then take final action on the draft permit varies on a case-by-case basis. Nonetheless, similar

permitting actions, which often required years, provide useful guidance, and show that the 12 months requested by Petitioners is unreasonable. *Id.* ¶¶ 92-93.

The Region must be afforded the time necessary to analyze the complex ecological, technological and economic issues specific to each facility so that it can reach considered results that are appropriately protective of public health and the environment and are not arbitrary, capricious, or an abuse of discretion. See *Sierra Club v. Thomas*, 828 F.2d at 798-99. The time Region 1 is planning to spend evaluating the issues specific to each facility will allow it to make a fully-considered decision and should decrease the chance of future challenges to its ultimate decisions on the merits of the issues. *Id.* In contrast, a rushed and less fully-considered decision is more likely to result in future challenges and increases the risk of a time-consuming remand that will increase the overall time for EPA to implement the statutory scheme. *Id.* The time that Region 1 plans to spend now could well serve to decrease the total time necessary for EPA to implement the statutory scheme. *Id.*; see also *In re United Mine Workers of Am. Int. Union*, 190 F.3d 545, 555 (D.C. Cir. 1999) (“[t]he agency plan may well shorten the overall period of delay by resolving issues that would otherwise become the subject of litigation.”).

Whether the statutory scheme provides a timetable or other indication of the speed with which Congress expects the agency to proceed may inform the ~~rate~~ reason for agency action. See *TRAC*, 750 F.2d at 79-80. Congress provided that NPDES permits be limited to terms of up to five years, 42 U.S.C. § 1342(b)(1)(B), and

pursuant to the APA section 9(b), 5 U.S.C. § 558, that the permits would be administratively continued by operation of law upon filing of a timely and complete renewal application. EPA does not dispute that the length of administrative continuances for the NPDES permits in this case are extensive. See Decl. ¶¶ 27-33. Nonetheless, given the competing priorities in NPDES permitting and limited resources for agency action in administering the NPDES program, as well as the complexity of the issues attendant to these particular agency actions, the five-year term for NPDES permits does not dictate a ~~unreasonable~~ reason for agency action in every case, and especially not in this one. Even in the face of a statutory deadline, which is not present in this case, courts have concluded that a delay of years does not warrant mandamus relief when the administrative proceedings present complex issues. See *In re United Mine Workers of Am. Int. Union*, 190 F.3d at 554 (finding agency's schedule of years not facially unreasonable in light of, among other things, the agency's need to collect and analyze data and develop a rulemaking record); see also *Grand Canyon Air Tour Coali. v. Fed. Aviation Admin.*, 154 F.3d 455, 476-78 (D.C. Cir. 1998) (declining to require speedier response where agency had a plan for action and the issues involved [w ere] complex).

In light of the above considerations, under the first factor, this Court should defer to EPA's timeframe for action on the pending NPDES permit renewals for these two steam electric power plants, which as explained below, also addresses competing priorities in Region 1's NPDES permit program.

2. Health and welfare concerns are not dispositive here and do not counsel in favor of mandamus.

The second factor, which concerns the length of delay when health and welfare are at stake, does not counsel in favor of granting mandamus in this case. This factor is certainly not dispositive here because EPA ~~entire~~ docket involves issues concerning human health and welfare. *Sierra Club v. Thomas*, 828 F.2d at 798. Whether the public health and welfare will benefit or suffer ~~depends~~ ^{depends} upon the competing priorities that consume EPA ~~time~~, since any acceleration here may come at the expense of delay of EPA action elsewhere. ~~鍾~~. In this case, as explained herein and in the Webster Declaration, accelerating action on the Mt. Tom and Schiller permits ~~will~~ ^{will} smaller facilities which have operated at significantly below their potential capacity in recent years ~~will~~ ^{will} completion of new NPDES permits for Merrimack Station, GE-Aviation, and Pilgrim Nuclear Power Station, and based on EPA ~~current~~ information, will threaten greater environmental harm. Decl. ¶¶ 82, 94-98. Thus, concern for water quality in the larger New England area weighs against mandamus.

Moreover, Petitioners ~~claims~~ ^{claims} for specific environmental harms related to the Mt. Tom and Schiller permit renewal delays are speculative at best. Petitioners suggest that the new NPDES permits will require more stringent thermal discharge and cooling water withdrawal limits based on closed-cycle cooling and, therefore, permitting delays have caused environmental harm. This argument presumes the

content of EPA ~~final~~ action on the NPDES permits. While it may be that after due consideration, EPA will conclude that effluent limits based on closed-cycle cooling systems are required, that outcome cannot be presumed. See, e.g., *id.* ¶¶ 72(i), 75(a).

Similarly, in regard to EPA ~~2010~~ non-binding guidance concerning coal combustion residual impoundments, referenced in the Petition at 27, Region 1 will consider the guidance and other information relevant to the Facilities during development of the new permits, but the results of the Region 1 ~~an~~ analysis cannot be prematurely presumed. EPA ~~current~~ information, however, is that Schiller has no such impoundments and that discharges from Mt. Tom ~~the~~ impoundment are currently regulated under the existing NPDES permit. Decl. ¶ 98.

Petitioners also incorrectly suggest that delay in renewing Mt. Tom ~~per~~mit has harmed the environment by delaying decisions about new wastewater treatment equipment for wastewater from the facility ~~the~~ gas desulfurization air pollution control equipment. Region 1 understands that Mt. Tom has no discharges at present from that equipment. *Id.* ¶¶ 80(a)(iii), 81(b).

Finally, while the second factor recognizes that human health concerns are, on balance, more important than economic concerns, it does not stand for the proposition that EPA should not be afforded the time necessary for complex decision-making in the realm of human health and the environment.

3. EPA has competing priorities which impact the time frame for action on re-issuing NPDES permits.

The third factor takes into account the effect that expediting agency action may have on agency activities of a higher or competing priority. Congress has assigned EPA very broad responsibilities not only under the CWA, but also under other equally complex environmental statutes. *Sierra Club v. Thomas*, 828 F.2d at 798. Congress has also provided EPA with finite, and potentially diminishing, resources to meet these competing responsibilities. *Id.*; Decl. ¶¶ 34, 103.

Petitioners ask this Court to compel expedited action on two pending NPDES permits, which are amongst a significant number of NPDES permits, including other backlogged permits, that Region 1 must address. EPA has developed a plan to address this backlog and is implementing that plan. Decl. ¶¶ 28-34. The relief requested by Petitioners is judicial order putting [the Mt. Tom Station and Schiller Station renewal applications] at the head of the queue which simply moves all others back one space and produces no net gain. *In re Barr Laboratories*, 930 F.2d 72, 75 (D.C. Cir. 1991).

In *In re Barr Laboratories*, the D.C. Circuit denied mandamus relief when, under analogous circumstances, a pharmaceutical company sought mandamus requiring the Food and Drug Administration (FDA) to comply with a statutory deadline for review of the company's applications to sell generic drugs. Although the FDA had violated the deadline, the court denied mandamus relief because the court found that

putting plaintiff application first simply changed the order of applications and did not eradicate the delay. 930 F.2d at 75; see also *In re Monroe Commc. Corp.*, 840 F.2d 942, 946 (D.C. Cir. 1988) (denying mandamus for five year delay in television license renewal because courts must give agencies great latitude in determining their agendas).

Petitioners have not explained why action on the NPDES permits for these two facilities is more compelling than any other NPDES permit applications. Indeed, Region 1 has made a reasoned policy decision that action on other permits is even more compelling. Decl. ¶¶ 94-96. In recent years, the Region has completed a number of other permits for power plants, and has published draft permits for GE-Aviation and Merrimack Station, but still needs to prepare responses to comments and issue final permit decisions for these facilities. *Id.* ¶¶ 75-76. The Region is also currently working on a new draft permit for the Pilgrim Nuclear Power Station, another large power plant, and in addition, must address other significant NPDES permits, e.g., municipal sewage treatment plant permits. *Id.* ¶¶ 23-25, 78.

EPA is not arguing that the Mt. Tom and Schiller permits are unimportant, but rather, that their schedules should not have been, and should not currently be, accelerated at the expense of the Region's efforts to address these other permits. The shortage of resources in the face of this extremely complex and labor-intensive task of evaluating NPDES permits for steam electric power plants (and other complex NPDES permits) weighs strongly against the relief requested by Petitioners.

4. Petitioners' claims of harm and pre judice do not warrant mandamus.

As discussed above, Petitioners' claims of environmental harm are speculative, and in fact, the potential for environmental harm is greater if EPA was to be forced by a mandate to reorder its priorities and thus delay ongoing actions related to more environmentally significant NPDES permit applications.

Petitioners also assert harm to their ability to participate in the NPDES permitting process, and to inform themselves and educate their members. Petition at 28. Petitioners fail to provide any support for these asserted harms, which are illusory. Once the draft permits are available for public comment, Petitioners will have the opportunity to participate in the NPDES permitting process by submitting comments as set forth in the CWA and EPA implementing regulations. See 40 C.F.R. §§ 124.6, 124.10. Petitioners claim that EPA's choice to direct its limited resources to more environmentally significant priorities somehow harms their interest in learn[ing] more about the Facilities and educating their members about the environmental impacts is also meritless. Petitioners have taken advantage of the Freedom of Information Act, 5 U.S.C. § 552, to obtain substantial information about the Facilities from EPA. Decl. ¶ 99.

Petitioners' assertions of harm to enforcement and compliance also lack merit. Both Facilities must comply with the CWA and the terms of their existing NPDES permits. Petitioners' anticipation of future NPDES permits has no effect on the present-day requirement the Facilities comply with the CWA, and in no way impedes

any potential CWA enforcement action. The nature and extent of the interests that Petitioners claim to be prejudiced by delay do not warrant the issuance of a writ of mandamus here. See *Kokajko v. FERC*, 837 F.2d 524, 526 (1st Cir. 1988) (delay in FERC decision-making process did not subject petitioner to irreparable injury such that issuance of a writ of mandamus was warranted).

5. There is no allegation of impropriety here.

The final *TRAC* factor provides that the Court need not find impropriety lurking behind agency lassitude in order to hold that agency action is unreasonably delayed. *TRAC*, 750 F.2d at 80 (citations omitted). Petitioners have not suggested that EPA is acting in bad faith. Nor has there been any lassitude on EPA's part. Rather, as explained above and in the Webster Declaration, EPA is and has been diligently addressing the complex technical and scientific issues involved in issuing NPDES permits to steam electric power plants, and it reasonably requires adequate time to complete action on the Facilities permits. Therefore, to the extent this factor has any bearing on this case at all, it counsels *against* a finding of unreasonable delay.

B. At Most, the Court Should Retain Jurisdiction While EPA Proceeds.

Congress did not set forth a specific timeframe for EPA to issue NPDES permits. In the face of a changing regulatory landscape, limited resources, and competing priorities, Region 1 is diligently moving forward to address the controversial and complex issues involved in multiple pending NPDES permitting actions for steam electric power plants, only two of which are the subject of the present case.

Region 1 reasonably requires additional time to complete its review of the complex ecological, technological, and economic issues necessary to issue draft NPDES permits for the two Facilities. *Id.* ¶ 83. Region 1 anticipates that, for the most part, the draft NPDES permits will be ready in spring 2014. However, revisions to the effluent limitations guideline for steam electric power plants are scheduled to be issued by May 22, 2014, pursuant to a judicially entered consent decree. *Defenders of Wildlife v. Jackson*, Case No. 10-cv-01915 (D.D.C.). It is reasonable for the draft permits to reflect such revisions; therefore, the Region anticipates that the draft permits will be made available for public comment by June 30, 2014, after it has a chance to consider the application of the new guideline. Decl. ¶¶ 82, 84-86. This will also give concerned persons who might comment on the draft permits the opportunity to consider the effect of the new regulations.

After the close of the comment periods for the two draft permits, Region 1 must consider all the comments, provide written responses to comments, comply with various federal laws applicable to its permit actions, such as the ESA, and take final action on the permits. As explained in the Webster Declaration, based on Region 1's experience in other, similar permit actions, the Region anticipates final action on the Mt. Tom and Schiller NPDES permits by June 30, 2016. *Id.* ¶¶ 82, 88-92, 100-06. EPA's schedule takes into account not only the complex scientific, technical, legal and policy issues presented by NPDES permits for power plants, but also the competing priorities to be addressed by the Region, and the needs of the notice-and-comment

process. *Id.* In contrast, the schedule proposed by Petitioners is unsupported and arbitrary. EPA should be allowed to complete its review in a time frame dictated by sound science and in recognition of other competing priorities.

If the Court dismisses the petition, as EPA believes it should, Petitioners can always renew the petition should EPA take significantly longer than anticipated to complete its work. If the Court believes the right to file a new mandamus petition would be insufficient to protect Petitioners, the case law suggests retaining jurisdiction while the Agency completes its action. See *TRAC*, 750 F.2d at 80; *In re Ctr. for Auto Safety*, 793 F.2d at 1354.

CONCLUSION

For all these reasons, the Court should deny and dismiss the petition for a writ of mandamus.

Respectfully Submitted,

IGNACIA S. MORENO
Assistant Attorney General
Environment and Natural Resources Division

Dated: March 14, 2013

s/ Amy. J. Dona
AMY J. DONA
United States Department of Justice
Environmental Defense Section
P.O. Box 7611
Washington, D.C. 20044
(202) 514-0223
amy.dona@usdoj.gov

Attorneys for EPA

CERTIFICATE OF SERVICE

I hereby certify that on March 14, 2013, I electronically filed the foregoing document and the accompanying addendum with the United States Court of Appeals for the First Circuit by using the CM/ ECF system. I certify that the following parties or their counsel of record are registered as ECF Filers and that they will be served by the CM/ ECF system:

Christopher Sproul
Environmental Advocates
5135 Anza Street
San Francisco, CA 94121
(415) 553-3376
E-mail: csproul@enviroadvocates.com

Attorney for Petitioner
OUR CHILDREN'S EARTH FOUNDATION

Nora J. Chorover
Stern Shapiro Weissberg & Garin LLP
90 Canal Street, Suite 500
Boston, MA 02114 - 2022
(617) 742-5800 ext. 135 E-mail: nchorover@sswg.com

Attorney for Petitioner
SIERRA CLUB

s/ Amy J. Dona
AMY J. DONA
United States Department of Justice
Environmental Defense Section
P.O. Box 7611
Washington, D.C. 20044
(202) 514-0223
amy.dona@usdoj.gov


in order to comply with a variety of environmental regulations. A mandate for closed-cycle cooling would require additional compliance investments making some facilities uneconomic, forcing retirement and causing adverse energy impacts. States need the discretion to weigh costs and benefits and accommodate the variability in aquatic resources, other environmental factors and physical site configurations when selecting entrainment control options.

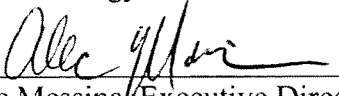
In addition, cooling water intake structure permits include a great deal of site-specific information that has to be carefully collected, prepared and analyzed. It is a task the industry does not take lightly but neither should it be made more difficult by unnecessarily constraining the compliance deadline in which to complete the necessary studies and analyses. We urge EPA to provide a reasonable time period for plant owners to collect and state permitting authorities to evaluate information necessary to process permit applications.

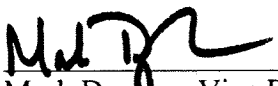
Lastly, it is imperative that cooling ponds created specifically to serve as integral components of closed-cycled cooling systems, not be subject to regulation simply because the cooling ponds were created in or impound "Waters of the United States." Precluding such closed-cycled cooling systems from satisfying section 316(b) impingement and entrainment standards is unfair, costly, environmentally unnecessary, and could have the perverse effect of causing facility owners to draw more water from nearby rivers, aquifers or municipal supplies as a means to comply with the regulations.

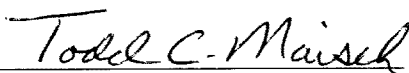
Thank you for considering our views in obtaining a flexible, balanced rule that is administratively achievable, environmentally protective and economically justifiable. We are sure the Illinois Environmental Protection Agency stands ready to work with you and your staff to assure the best possible outcome on this rulemaking.

Sincerely


James R. Monk, President
Illinois Energy Association


Alec Messina, Executive Director
Illinois Environmental Regulatory Group


Mark Denner, Vice President & COO
Illinois Manufacturers' Association


Todd Maisch, Executive Vice President
Illinois Chamber of Commerce

cc: Docket ID No. EPA-HQ-OW-2008-0667; www.regulations.gov

Lisa Bonnett, Director, Illinois Environmental Protection Agency

Marcia Willhite, Bureau of Water, Illinois Environmental Protection Agency

To: Jones, Jim[Jones.Jim@epa.gov]
From: Stoner, Nancy
Sent: Mon 1/6/2014 9:48:51 PM
Subject: RE: ESA

For 316b, Betsy Southerland, Rob Wood. Also OGC, Steve Neugeboren, Mary Ellen Levine.

We have other ESA consultation issues also involving other offices if you want to branch out.

From: Jones, Jim
Sent: Monday, January 06, 2014 9:19 AM
To: Stoner, Nancy
Subject: RE: ESA

Great. It's really just a shared learning I'm looking for. Although our facts will be different, the players and the ESA itself are the same. Let me know who from OW should be invited and I'll get something scheduled. Jim

From: Stoner, Nancy
Sent: Monday, January 06, 2014 9:00 AM
To: Jones, Jim
Subject: RE: ESA

OK. Late in the game for this particular rule, but we can let you where we are.

From: Jones, Jim
Sent: Monday, January 06, 2014 8:45 AM
To: Stoner, Nancy
Subject: ESA

Nancy, I understand from Lisa Feldt that OW (and the Administrator) is Ex. 5 - Deliberative with some ESA issues related to a 316(b) rulemaking. We have a longstanding Ex. 5 - Deliberative on ESA compliance. I think it might be useful for both of our offices to share some of our experiences so as to allow both of our orgs to have "our eyes wide open" as we work through the issues. I

Ex. 5 - Deliberative

would suggest that you and me and some of our senior managers who have worked these issues get together. I'd be happy to schedule. Thoughts?

Jim Jones

Assistant Administrator

Office of Chemical Safety and Pollution Prevention

US EPA

202 564-0342

To: Deputy Administrator[62Perciasepe.Bob73@epa.gov]
From: Stoner, Nancy
Sent: Tue 12/3/2013 6:05:42 PM
Subject: Is there info/talkers that you'd like us to prepare for OIRA on 316(b) and ESA?

ÿ

To: Penman, Crystal[Penman.Crystal@epa.gov]
From: Stoner, Nancy
Sent: Wed 11/6/2013 8:54:19 PM
Subject: Fw: November Action Status Matrix
[OW Action Status November 2013.pdf](#)

For my calendar book, thx

From: Nelson, Tomeka
Sent: Wednesday, November 06, 2013 1:55:05 PM
To: Stoner, Nancy; Kopocis, Ken; Shapiro, Mike; Gilinsky, Ellen
Cc: Best-Wong, Benita; Peck, Gregory; Lape, Jeff; Lousberg, Macara; Klasen, Matthew; Fontaine, Tim; Loop, Travis; Evalenko, Sandy; Southerland, Elizabeth; Sawyers, Andrew; Scozzafava, MichaelE; Sanelli, Diane; Grevatt, Peter; Bathersfield, Nizanna; Frace, Sheila; Koo-Oshima, Sasha; Bissonette, Eric; Ruf, Christine; Nelson, Tomeka; Evans, David
Subject: November Action Status Matrix

Tomeka Nelson

OW Water Policy Staff (Detail)

202-566-1291

3226C - WJC East

To: Feldt, Lisa[Feldt.Lisa@epa.gov]; Vaught, Laura[Vaught.Laura@epa.gov]
From: Stoner, Nancy
Sent: Wed 11/6/2013 3:23:24 PM
Subject: Fw: FYI: Two stories on House Dems' letter to GM on 316(b)

Fyi

From: Southerland, Elizabeth
Sent: Wednesday, November 06, 2013 9:42:06 AM
To: Stoner, Nancy; Gilinsky, Ellen; Kopocis, Ken; Loop, Travis
Subject: Fw: FYI: Two stories on House Dems' letter to GM on 316(b)

Fyi

From: Skane, Elizabeth
Sent: Wednesday, November 06, 2013 9:00:39 AM
To: Southerland, Elizabeth; Wood, Robert; Hewitt, Julie
Cc: Zipf, Lynn; Lalley, Cara
Subject: FYI: Two stories on House Dems' letter to GM on 316(b)

In case you missed these... (have not seen these in CMS yet, I don't think)

<http://www.eenews.net/eedaily/2013/11/05/stories/1059989965>

House Dems pressure EPA on cooling water at power plants ahead of coming rule

Annie Snider, E&E reporter

Published: Tuesday, November 5, 2013

Democratic House lawmakers are pressing U.S. EPA to release a strong national standard to reduce the number of fish and other aquatic organisms sucked into power plants' cooling water intake structures as the agency stands poised to release a long-awaited final rule in the coming weeks.

Nineteen Democrats, led by House Democratic Steering Committee member Keith Ellison (D-Minn.), wrote EPA Administrator Gina McCarthy on Friday calling for a rule that would require all existing power plants to use closed-cycle cooling, which the agency has deemed to be the best available technology.

That technology has long been required for new power plants, but the rule proposed by EPA for existing power plants in 2011 would only require old power plants to install closed-cycle cooling when they build new power-generation units at existing facilities (*Greenwire*, March 29, 2011).

"As currently written, the proposed new rules on power plant cooling structures fail to set a strong national standard for protecting aquatic ecosystems, despite the availability and prevalence of closed-cycle technology," the lawmakers wrote. "Although closed-cycle cooling and reclaimed water technology has been widely used for decades, over 600 power plants across the country still use outdated once-through cooling structures."

The lawmakers also joined environmental groups in blasting the proposed rule for leaving case-by-case decisions up to state regulators, which they say is essentially the status quo. A report released by green groups last month contended that states are currently doing a shoddy job on permitting (*E&ENews PM*, Oct. 2).

EPA was due to finalize the cooling water intake rule yesterday under a settlement agreement with environmental groups, but last week said it needed an additional 16 days due to the government shutdown (*Greenwire*, Nov. 1). The agency is currently in talks with environmental groups about a potential further extension.

"This is just delay on top of literally decades of delay," said Reed Super, the attorney representing environmental groups that brought the lawsuit that led to the settlement agreement.

Super said that environmentalists are willing to keep turning to the courts if they are not happy with the final rule, noting that green groups have recently filed lawsuits in New York, New Jersey and Delaware over individual permits that they argue are not strict enough.

"If the rule looks something like the proposed rule, then we'll have no choice but to sue and challenge the rule again," he said.

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=37949895&vname=dennotallissues&jd=a0e3a3d8w7&split=0

Six House Democrats Urge EPA To Write Stronger Cooling Water Intake Rule



By *Amena H. Saiyid*

Nov. 5 — Six House Democrats are urging the Environmental Protection Agency to write a stronger rule for cooling water intake structures at power plants and industrial facilities than the one currently proposed.

In a Nov. 1 letter to EPA Administrator Gina McCarthy, the lawmakers said the EPA should mandate closed-cycle cooling for all existing power plants.

The current proposed rule would require state environmental agencies to make site-specific determinations about the technology, which the lawmakers say would be a burden on strained state agencies.

A closed-loop, or recirculating system, allows water to be withdrawn once, whereas the system currently used by power plants allows them to withdraw water for each use.

The letter urged EPA to set a "strong, national standard to upgrade power plant cooling structures, instead of continuing the policy of environmental degradation, unsustainable resource use and energy grid insecurity."

The letter was signed by Reps. Keith Ellison (D-Minn.), Earl Blumenauer (D-Ore.), Matthew Cartwright (D-Pa.), Yvette Clarke (D-N.Y.), Sam Farr (D-Calif.) and Raul Grijalva (D-Ariz.).

EPA is scheduled to issue a final cooling water intake rule Nov. 20. The White House Office of Management and Budget has been reviewing the rule since July 30 (214 DEN A-15, 11/5/13).

More Than 1,000 Plants Affected

The final cooling water intake rule would require more than 1,000 power plants and industrial facilities to obtain National Pollutant Discharge Elimination System permits that reflect the best available technology in design, location and construction of cooling water intake structures to limit the trapping and killing of fish and other marine life.

The intake structures at industrial facilities draw water from rivers, lakes and streams to be used for cooling. However, aquatic organisms are harmed or killed when they get drawn into these systems or become trapped on screens intended to filter them out.

EPA proposed the rule in March 2011 under Section 316(b) of the Clean Water Act, which requires EPA to establish standards for cooling water intake structures that reflect best available technology.

Under the proposed rule, EPA's preferred option would require impingement-prevention controls for existing facilities that withdraw at least 25 percent of their water for cooling and have a design intake flow of 2 million gallons or more per day. Entrainment controls would be based on site-specific determinations.

New units at existing facilities under this preferred option would be required to use closed-loop cooling towers, which are already required for new facilities.

Groups Support Closed-Cycle Cooling

The lawmakers' views reflect those of the environmental groups that have been urging the EPA to require closed-cycle cooling for new and existing power plants and factories. EPA is working under a 2010 settlement agreement with Riverkeeper and other environmental groups that was modified in 2012 to issue this final rule (*Riverkeeper v. Jackson*, S.D.N.Y., No. 93-Civ-0314, 7/17/12; 142 DEN A-14, 7/25/12).

Despite the "availability and prevalence" of closed-cycle technology, the lawmakers told McCarthy that the 600 power plants, which will be affected by the new regulations, still use outdated-once-through

cooling structures.

"These structures degrade the ecology of our rivers, estuaries, and harbors by directly causing wildlife mortality, thermal pollution, and unsustainable water overuse. As climate change continues to accelerate, the negative effects of once-through cooling structures will be magnified," the lawmakers wrote.

To contact the reporter on this story: Amena H. Saiyid in Washington at asaiyid@bna.com

To contact the editor responsible for this story: Larry Pearl at lpearl@bna.com

For More Information

The letter from six House Democrats to EPA Administrator McCarthy is available at <http://op.bna.com/env.nsf/r?Open=r1en-9d6mvh>.

Elizabeth Skane | Special Assistant | Office of Science & Technology / Office of Water / US EPA | 202.564.5696



To: Southerland, Elizabeth[Southerland.Elizabeth@epa.gov]; Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]; Kopocis, Ken[Kopocis.Ken@epa.gov]; Loop, Travis[Loop.Travis@epa.gov]
From: Stoner, Nancy
Sent: Wed 11/6/2013 3:23:06 PM
Subject: Re: FYI: Two stories on House Dems' letter to GM on 316(b)

OK, thanks

From: Southerland, Elizabeth
Sent: Wednesday, November 06, 2013 9:42:06 AM
To: Stoner, Nancy; Gilinsky, Ellen; Kopocis, Ken; Loop, Travis
Subject: Fw: FYI: Two stories on House Dems' letter to GM on 316(b)

Fyi

From: Skane, Elizabeth
Sent: Wednesday, November 06, 2013 9:00:39 AM
To: Southerland, Elizabeth; Wood, Robert; Hewitt, Julie
Cc: Zipf, Lynn; Lalley, Cara
Subject: FYI: Two stories on House Dems' letter to GM on 316(b)

In case you missed these... (have not seen these in CMS yet, I don't think)

<http://www.eenews.net/eedaily/2013/11/05/stories/1059989965>

House Dems pressure EPA on cooling water at power plants ahead of coming rule

Annie Snider, E&E reporter

Published: Tuesday, November 5, 2013

Democratic House lawmakers are pressing U.S. EPA to release a strong national standard to reduce the number of fish and other aquatic organisms sucked into power plants' cooling water intake structures as the agency stands poised to release a long-awaited final rule in the coming weeks.

Nineteen Democrats, led by House Democratic Steering Committee member Keith Ellison (D-Minn.), wrote EPA Administrator Gina McCarthy on Friday calling for a rule that would require all existing power plants to use closed-cycle cooling, which the agency has deemed to be the best available technology.

That technology has long been required for new power plants, but the rule proposed by EPA for existing power plants in 2011 would only require old power plants to install closed-cycle cooling when they build new power-generation units at existing facilities (*Greenwire*, March 29, 2011).

"As currently written, the proposed new rules on power plant cooling structures fail to set a strong national standard for protecting aquatic ecosystems, despite the availability and prevalence of closed-cycle technology," the lawmakers wrote. "Although closed-cycle cooling and reclaimed water technology has been widely used for decades, over 600 power plants across the country still use outdated once-through cooling structures."

The lawmakers also joined environmental groups in blasting the proposed rule for leaving case-by-case decisions up to state regulators, which they say is essentially the status quo. A report released by green groups last month contended that states are currently doing a shoddy job on permitting (*E&ENews PM*, Oct. 2).

EPA was due to finalize the cooling water intake rule yesterday under a settlement agreement with environmental groups, but last week said it needed an additional 16 days due to the government shutdown (*Greenwire*, Nov. 1). The agency is currently in talks with environmental groups about a potential further extension.

"This is just delay on top of literally decades of delay," said Reed Super, the attorney representing environmental groups that brought the lawsuit that led to the settlement agreement.

Super said that environmentalists are willing to keep turning to the courts if they are not happy with the final rule,

noting that green groups have recently filed lawsuits in New York, New Jersey and Delaware over individual permits that they argue are not strict enough.

"If the rule looks something like the proposed rule, then we'll have no choice but to sue and challenge the rule again," he said.

http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=37949895&vname=dennotallissues&jd=a0e3a3d8w7&split=0

Six House Democrats Urge EPA To Write Stronger Cooling Water Intake Rule



By *Amena H. Saiyid*

Nov. 5 — Six House Democrats are urging the Environmental Protection Agency to write a stronger rule for cooling water intake structures at power plants and industrial facilities than the one currently proposed.

In a Nov. 1 letter to EPA Administrator Gina McCarthy, the lawmakers said the EPA should mandate closed-cycle cooling for all existing power plants.

The current proposed rule would require state environmental agencies to make site-specific determinations about the technology, which the lawmakers say would be a burden on strained state agencies.

A closed-loop, or recirculating system, allows water to be withdrawn once, whereas the system currently used by power plants allows them to withdraw water for each use.

The letter urged EPA to set a "strong, national standard to upgrade power plant cooling structures, instead of continuing the policy of environmental degradation, unsustainable resource use and energy grid insecurity."

The letter was signed by Reps. Keith Ellison (D-Minn.), Earl Blumenauer (D-Ore.), Matthew Cartwright (D-Pa.), Yvette Clarke (D-N.Y.), Sam Farr (D-Calif.) and Raul Grijalva (D-Ariz.).

EPA is scheduled to issue a final cooling water intake rule Nov. 20. The White House Office of Management and Budget has been reviewing the rule since July 30 (214 DEN A-15, 11/5/13).

More Than 1,000 Plants Affected

The final cooling water intake rule would require more than 1,000 power plants and industrial facilities to obtain National Pollutant Discharge Elimination System permits that reflect the best available technology in design, location and construction of cooling water intake structures to limit the trapping and killing of fish and other marine life.

The intake structures at industrial facilities draw water from rivers, lakes and streams to be used for cooling. However, aquatic organisms are harmed or killed when they get drawn into these systems or become trapped on screens intended to filter them out.

EPA proposed the rule in March 2011 under Section 316(b) of the Clean Water Act, which requires EPA to establish standards for cooling water intake structures that reflect best available technology.

Under the proposed rule, EPA's preferred option would require impingement-prevention controls for existing facilities that withdraw at least 25 percent of their water for cooling and have a design intake flow of 2 million gallons or more per day. Entrainment controls would be based on site-specific determinations.

New units at existing facilities under this preferred option would be required to use closed-loop cooling towers, which are already required for new facilities.

Groups Support Closed-Cycle Cooling

The lawmakers' views reflect those of the environmental groups that have been urging the EPA to require closed-cycle cooling for new and existing power plants and factories. EPA is working under a 2010 settlement agreement with Riverkeeper and other environmental groups that was modified in 2012 to issue this final rule (*Riverkeeper v. Jackson*, S.D.N.Y., No. 93-Civ-0314, 7/17/12; 142 DEN A-14, 7/25/12).

Despite the “availability and prevalence” of closed-cycle technology, the lawmakers told McCarthy that the 600 power plants, which will be affected by the new regulations, still use outdated-once-through cooling structures.

“These structures degrade the ecology of our rivers, estuaries, and harbors by directly causing wildlife mortality, thermal pollution, and unsustainable water overuse. As climate change continues to accelerate, the negative effects of once-through cooling structures will be magnified,” the lawmakers wrote.

To contact the reporter on this story: Amena H. Saiyid in Washington at asaiyid@bna.com

To contact the editor responsible for this story: Larry Pearl at lpearl@bna.com

For More Information

The letter from six House Democrats to EPA Administrator McCarthy is available at <http://op.bna.com/env.nsf/r?Open=r1en-9d6mvh>.

Elizabeth Skane | Special Assistant | Office of Science & Technology / Office of Water / US EPA | 202.564.5696



2004 WL 3757413 (C.A.2) (Appellate Petition, Motion and Filing)
United States Court of Appeals,
Second Circuit.

Waterkeeper ALLIANCE, American Farm Bureau Federation Chicken Council, National Pork Producers Council, National Turkey Federation, American Littoral Society, Sierra Club, Inc., Natural Resources Defense Council, Inc., Petitioners/Intervenors,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Michael O. Leavitt, Administrator, United States Environmental Protection Agency, Respondents.

Nos. 03-4470(L), 03-4621(C), 03-4631(C), 03-4641(C), *03-4709(C), 03-4849(C), 03-40199(C), 03-40229(C).
July 16, 2004.

On Petition for Review of Final Action of the United States Environmental Protection Agency

Brief for the Environmental Petitioners (Waterkeeper Alliance, American Littoral Society, Sierra Club, Natural Resources Defense Council)

Jeffrey Odefey, Waterkeeper Alliance, 828 South Broadway, Suite 100, Tarrytown, New York 10591, (914) 674-0622, Attorney for Waterkeeper Alliance.

Melanie Shepherdson, Nancy K. Stoner, Natural Resources Defense Council, 1200 New York Avenue, NW, Ste. 400, Washington, DC 20005, (202) 289-6868, Attorneys for Natural Resources Defense Council.

Eric E. Huber, Sierra Club Record, 2260 Baseline Road, Ste. 105, Boulder, CO 80302, (303) 449-5595, Attorney for Sierra Club, Inc.

James M. Stuhltrager, Mid-Atlantic, Environmental Law Center, 4601 Concord Pike, Wilmington, DE 19803-0474, (302) 477-2086, Attorney for American Littoral Society.

***I CORPORATE DISCLOSURE STATEMENT**

Pursuant to Federal Rule of Appellate Procedure 26.1, Petitioner Waterkeeper Alliance, Inc. states that it is a New York nonprofit corporation; Petitioner Sierra Club, Inc. states that it is a California nonprofit corporation; Petitioner Natural Resources Defense Council, Inc. ("NRDC") states that it is a New York nonprofit corporation; petitioner American Littoral Society states that it is a New Jersey nonprofit corporation. Waterkeeper Alliance, Sierra Club, NRDC, and the American Littoral Society ("Environmental Petitioners") state that they do not have any parent companies, subsidiaries or affiliates that have issued shares or debt securities to the public. No publicly held company has any ownership interest in Environmental Petitioners.

***ii TABLE OF CONTENTS**

CORPORATE DISCLOSURE STATEMENT

TABLE OF CONTENTS

TABLE OF AUTHORITIES

PRELIMINARY STATEMENT

JURISDICTIONAL STATEMENT

STATEMENT OF ISSUES

STATEMENT OF THE CASE

I. NATURE OF THE CASE AND COURSE OF PROCEEDINGS AND DISPOSITION IN THE AGENCY

II. STATEMENT OF FACTS

A. Description of CAFO Industry and Operations

B. CAFO Waste Disposal

C. The Effects of CAFOs on Water Quality and Human Health

D. History of CAFO Regulation

E. The CAFO Rule

SUMMARY OF ARGUMENT

I. NUTRIENT MANAGEMENT PLANS

II. AGRICULTURAL STORMWATER

*iii III. WATER QUALITY BASED EFFLUENT LIMITATIONS

IV. EFFLUENT LIMITATIONS GUIDELINES

STANDARD OF REVIEW

ARGUMENT

I. THE CAFO RULE'S PERMITTING SCHEME FAILS TO REQUIRE THAT DISCHARGES FROM CAFO LAND APPLICATION AREAS MEET CWA REQUIREMENTS

A. The CAFO Rule Fails to Ensure That CAFO NPDES Permits Meet Technology-Based Standards

B. The CAFO Rule Unlawfully Fails to Require That NMPs Be Included in NPDES Permits

II. THE CAFO RULE VIOLATES THE PUBLIC PARTICIPATION REQUIREMENT OF THE CWA

III. THE EPA APPLICATION OF THE AGRICULTURAL STORMWATER EXEMPTION TO CAFO LAND APPLICATION DISCHARGES IS CONTRARY TO THE CLEAN WATER ACT AND ARBITRARY AND CAPRICIOUS

A. The Application of the Agricultural Stormwater Exemption to CAFO Discharges Is Contrary to the Clean Water Act's Designation of CAFOs as Point Sources

1. *Southview Farm* and CAFO Land Application Discharges

2. EPA's Application of the Agricultural Stormwater Exemption to CAFOs

***iv** 3. Discharges from the Land Application Areas Are Discharges from CAFOs, Hence EPA Cannot Exempt Them from NPDES Permit Requirements as “Agricultural Stormwater”

a. The Land Application of Waste Is Part of the CAFO, Which Is Defined By Statute As a Point Source

b. CAFO Discharge Are Not Agricultural Stormwater

c. Congress Intended the Stormwater Exemption to Apply to Non-Industrial Farms, Not CAFOs

d. CAFOs Are an Exception to Agricultural Stormwater

IV. THE CAFO RULE UNLAWFULLY EXEMPTS CAFO DISCHARGES FROM WATER QUALITY BASED EFFLUENT LIMITATIONS

A. Overview of Section 302

B. EPA Has Unlawfully Established a Categorical Exemption of CAFO Land Application Discharges From Section 302

C. EPA's Exemption of WQBELs Is Arbitrary and Capricious

V. THE CAFO RULE'S EFFLUENT LIMITATION GUIDELINES VIOLATE THE CLEAN WATER ACT, ARE ARBITRARY AND CAPRICIOUS AND OTHERWISE VIOLATE THE REQUIREMENTS OF THE CLEAN WATER ACT

A. The Clean Water Act Specifies Technology-Based Standards In Order to Reduce Water Pollution

*v 1. Best Practicable Control Technology

2. Best Conventional Pollutant Control Technology

3. Best Available Technology

4. New Source Performance Standards

B. EPA's Designation of BPT, BCT, BAT in the CAFO Rule

C. EPA Failed to Properly Establish BAT Standards For the CAFO Industry

1. EPA's BAT Standard Fails to Represent the Performance of the Single Best-Performing Plant in the Industry

2. EPA Improperly Abandoned Option 5 as BAT for Swine, Poultry and Veal CAFOs Because of Purported Cost to Industry

- a. Costs to Industry Are to Be Given Minimal Consideration in Establishing BAT
- b. EPA Has No Basis for Determining That the Projected Failure Rate Required the Rejection of Option 5 BAT
- c. EPA's 11% Negative Impact Rate for Implementing Option 5 Is within Acceptable Impact Limitations under BAT
- 3. EPA's Rejection of Option 3 BAT for Beef, Dairy, and Heifer CAFOs Is Unsupported by the Administrative Record
- *vi a. EPA Determined That Option 3 Represents Best Available Technology Economically Achievable for Eliminating Discharges from Beef and Dairy CAFOs
- b. EPA's Rejection of Option 3 as BAT for the Beef and Swine Subcategory is Contrary to the Law
- D. EPA's BCT Determination Is Arbitrary and Capricious Because It Fails to Control or Eliminate Pathogens, a Conventional Pollutant, as Required by the Clean Water Act

- 1. Rejection of Pathogen Controls Violates Clean Water Act Regulations
- 2. Failure to Regulate Pathogens Is Inconsistent with Comparable Regulatory Schemes

VI. THE CAFO RULE'S NEW SOURCES PERFORMANCE STANDARD FOR THE SWINE, POULTRY, AND VEAL SUBCATEGORY IS ARITRARY AND CAPRICIOUS AND FAILS TO COMPLY WITH THE ADMINISTRATIVE PROCEDURE ACT'S NOTICE AND COMMENT REGULATIONS

A. The CAFO Rule's NSPS for the Swine, Poultry, and Veal Subcategory Is Not Supported in the Record

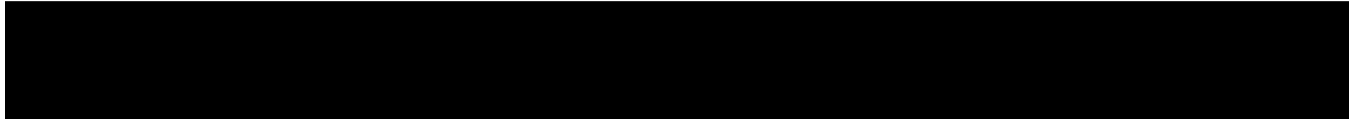
B. EPA's Selection of NSPS for the Swine, Poultry, and Veal Subcategory Is Arbitrary and Capricious Because EPA Changed the Standard at OMB's Request Without Further Analysis

CONCLUSION

CERTIFICATE OF COMPLIANCE

*vii CERTIFICATE OF SERVICE AND FILING

ADDENDUM



*viii TABLE OF AUTHORITIES

Cases

Air Transp. Ass'n of Am. v. Dep't Transp., 119 F.3d 38 (D.C. Cir. 1997)

American Frozen Food Inst. v. Train, 539 F.2d 107 (D.C. Cir. 1976)

American Iron & Steel Inst. v. EPA, 526 F.2d 1027 (3d Cir. 1997)

American Mining Congress v. EPA, 824 F.2d 1177 (D.C. Cir. 1987)

American Paper Inst. v. EPA, 660 F.2d 954 (4th Cir. 1981)

American Paper Inst. v. EPA, 996 F.2d 346 (D.C. Cir. 1993)

American Petroleum Inst. v. EPA, 787 F.2d 965 (5th Cir. 1986)

American Textile Mfrs. Inst., Inc. v. Donovan, 452 U.S. 490 (1981)

Arent v. Shalala, 70 F.3d 610 (D.C. Cir. 1995)

Association of Pacific Fisheries v. EPA, 615 F.2d 794 (9th Cir. 1980)

Atchinson v. Wichita Bd. of Trade, 412 U.S. 800 (1973)

BASF Wyandotte Corp. v. Costle, 598 F.2d 637 (1st Cir. 1979)

Carr v. Alta Verde Indus., Inc., 931 F.2d 1055 (5th Cir. 1991)

Chemical Mfrs. Ass'n v. EPA, 870 F.2d 177 (5th Cir. 1989)

Chemical Mfrs. Ass'n v. Natural Resources Defense Council, 470 U.S. 116 (1985)

Chevron v. NRDC, 467 U.S. 837 (1984)

*ix *Citizens Legal Environmental Action Network v. Premium Standard Farms*, No. 97-6073-CV-SJ-6, 2000 U.S. Dist. LEXIS 1990 (W.D. Mo. 2000)

Community Ass'n for the Restoration of the Env't v. Henry Bosma Dairy, 305 F.3d 943 (9th Cir. 2002)

Concerned Area Residents for the Env't v. Southview Farm, 134 F. 3d 114 (2d Cir. 1994)

Dague v. City of Burlington, 935 F.2d 1343 (2d Cir. 1991)

E. I. Du Pont De Nemours & Co. v. Train, 430 U.S. 112 (1977)

Environmental Defense Center v. EPA, 344 F.3d 832 (9th Cir. 2003), *petition for cert. denied*, *Texas Cities Coalition on Stormwater v. EPA*, 124 S.Ct. 2811, 2004 WL 1237474, 72 U.S.L.W. 3513 (U.S. June 7, 2004) (No. 03-1125)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

Environmental Defense Fund v. Thomas, 627 F. Supp. 566 (D.D.C. 1986)

EPA v. California ex rel. State Water Resources Control Bd., 426 U.S. 200, 205 (1976)

EPA v. National Crushed Stone Ass'n, 449 U.S. 64 (1980)

Fidelity Federal Sav. & Loan Ass'n v. de la Cuesta, 458 U.S. 141 (1982)

Henley v. FDA, 77 F.3d 616 (2d Cir. 1996)

Higbee v. Starr, 598 F. Supp. 323 (E.D. Ark. 1984)

Hooker Chemicals & Plastics Corp. v. Train, 537 F.2d 620 (2d Cir. 1976)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

Kennecott Utah Copper Corp. v. U.S. Dep't of Interior, 88 F.3d 1991 (D.C. Cir. 1991)

Kennecott v. EPA, 780 F.2d 445 (4th Cir. 1985)

*x *Michel v. INS*, 206 F.3d 253 (2d Cir. 2000)

Midwater Trawlers Co-operative v. Department of Commerce, 282 F.3d 710 (9th Cir. 2002)

Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29 (1983)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

National Black Media Coalition v. FCC, 791 F.2d 1016 (2d Cir. 1986)

National Wildlife Fed'n v. EPA, 286 F.3d 554 (D.C. Cir. 2002)

Natural Resources Defense Council v. Costle, 568 F.2d 1369, (D.C. Cir. 1977)

Natural Resources Defense Council v. EPA, 966 F.2d 1292 (9th Cir. 1992)

Natural Resources Defense Council, Inc. v. EPA, 822 F.2d 104 (D.C. Cir. 1987)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

Natural Resources Defense Council, Inc. v. EPA, 863 F.2d 1420 (9th Cir. 1988)

NRDC v. Reilly, modified sub. nom. NRDC v. Whitman, No. 89-2980 (D.D.C.)

Natural Resources Defense Council v. SEC, 606 F.2d 1031 (D.C. Cir. 1979)

New York Pub. Interest Research Group v. Whitman, 321 F.3d 316 (2d Cir. 2003)

Northwest Env'tl. Advocates v. City of Portland, 56 F.3d 979 (9th Cir. 1995),

Osorio v. INS, 18 F.3d 1017 (2d Cir. 1994)

*xi *Palermo v. Federal Deposit Ins. Corp.*, 981 F.2d 843 (5th Cir. 1993)

Public Citizen Health Research Group v. Tyson, 796 F.2d 1479 (D.C. Cir. 1986)

Public Citizen v. Mineta, 340 F.3d 39 (2d Cir. 2003)

Public Citizen v. Steed, 733 F.2d 93 (D.C. Cir. 1984)

Reynolds Metals Company v. EPA, 760 F.2d 549 (4th Cir. 1985)

Reynolds v. Rick's Mushroom Service, Inc., 246 F. Supp. 2d 449 (E.D. Pa. 2003)

Rybachek v. EPA, 904 F.2d 1276 (9th Cir. 1990)

SEC v. Chenery Corp., 332 U.S. 194 (1947)

Tanner's Council of Am., Inc. v. Train, 540 F.2d 1188 (4th Cir. 1976)

Texas Oil & Gas Ass'n v. EPA, 161 F.3d 923 (5th Cir. 1998)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

U.S. v. Earth Sciences, Inc. 599 F.2d 368 (10th Cir. 1979)

United States v. Bernier, 954 F.2d 818 (2d Cir. 1992)

Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., 2001 WL 1715730 (E.D.N.C. 2001)

Wyoming Outdoor Council v. U.S. Forest Serv., 165 F.3d 43 (D.C. Cir. 1999)

Federal Statutes

5 U.S.C. § 52(f)(2)

5 U.S.C. § 553(b)

5 U.S.C. § 706(2)(A)

***xii** 16 U.S.C. § 3839aa-7

28 U.S.C. § 21 12

33 U.S.C. § 1251(a)

33 U.S.C. § 1251(d)

33 U.S.C. § 1251(e)

33 U.S.C. § 1311

33 U.S.C. § 1311(a)(2)(A)

33 U.S.C. § 1311(b)

33 U.S.C. § 1311(b)(1)(A)

33 U.S.C. § 1311(b)(1)(C)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

33 U.S.C. § 1311(b)(2)(A)

33 U.S.C. § 1311(b)(2)(E)

33 U.S.C. § 1312

33 U.S.C. § 1312(a)

33 U.S.C. § 1314

33 U.S.C. § 1314(b)

33 U.S.C. § 1314(b)(2)(B)

33 U.S.C. 1314(b)(4)(B)

33 U.S.C. § 1314(m)

33 U.S.C. § 1316

***xiii** 33 U.S.C. § 1316(a)

33 U.S.C. § 1316(b)

33 U.S.C. § 1316(b)(1)(A)

33 U.S.C. § 1316(b)(1)(B)

33 U.S.C. § 13 17

33 U.S.C. § 1342

33 U.S.C. § 1342(a)

33 U.S.C. § 1342(a)(1)

33 U.S.C. § 1342(a)(2)

33 U.S.C. § 1342(b)(1)(A)

33 U.S.C. § 1342(j)

33 U.S.C. § 1342(k)

33 U.S.C. § 1342(p)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

33 U.S.C. § 1342(p)(3)(B)(iii)

33 U.S.C. § 1343

33 U.S.C. § 1362(14)

33 U.S.C. § 1365

33 U.S.C. § 1369(b)(1)

42 U.S.C § 6901 *et. seq*

***xiv Federal Rules**
Fed. R. App. P. 15

Federal Regulations
40 C.F.R. § 23.2

40 C.F.R. § 122.3(e)

40 CFR § 122.21(i)(1)(x)

40 C.F.R. § 122.23(b) (1994)

40 C.F.R § 122.23(b)(1)

40 C.F.R § 122.23(b)(2)

40 C.F.R § 122.23(b)(3)

40 C.F.R. § 122.23(e)

40 C.F.R. § 122.26(b)(13)

40 C.F.R. § 122.26(b)(14)(i)

40 C.F.R. § 122.26(b)(14)(v)

40 C.F.R. § 122.28(a)

40 C.F.R. § 122.42(e)

40 C.F.R. § 122.42(e)(1)

40 C.F.R. § 122.42(e)(2)(ii)

40 C.F.R. § 122.42(e)(4)

40 C.F.R. § 122.44

***xv** 40 C.F.R. § 122.44(a)

40 C.F.R. § 122.44(d)(1)

40 C.F.R. § 122.44(d)(1)(vii)

40 C.F.R. § 124.10(a)(1)(ii)

40 C.F.R. § 124.10(b)

40 C.F.R. § 124.19

40 C.F.R. § 141.63(b)

40 C.F.R. § 151.52

40 C.F.R. § 258.40

40 C.F.R. § 412

40 C.F.R. § 412.4(c)(1)

40 C.F.R. § 412.4(c)(2)

40 C.F.R. § 412.4(c)(3)

40 C.F.R. § 412.4(c)(4)

40 C.F.R. § 412.4(c)(5)

40 C.F.R. § 412.12

40 C.F.R. § 412.12 (2002)

40 C.F.R. § 412.13(b) (2002)

40 C.F.R. § 412.31

40 C.F.R. § 412.32

***xvi** 40 C.F.R. § 412.33

40 C.F.R. § 412.37(c)

40 C.F.R. § 412.43

40 C.F.R. § 412.44

40 C.F.R. § 412.45

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

40 C.F.R. § 412.46(a)(1)

40 C.F.R. § 412.46(d)

40 C.F.R. § 501

40 C.F.R. § 503

40 C.F.R. § 503.5

40 C.F.R. § 503.13

40 C.F.R. § 503.32

40 C.F.R. § 503.5

Federal Register
39 Fed. Reg. 5703-04 (Feb. 14, 1974)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

57 Fed. Reg. 41236 (Sept. 9, 1992)

57 Fed. Reg. 41297 (Sept. 9, 1992)

57 Fed. Reg. 41305 n.2 (Sept. 9, 1992)

58 Fed. Reg. 51735 (Sept. 30, 1993)

66 Fed. Reg. 2960 (Jan. 12, 2001)

***xvii** 66 Fed. Reg. 2969 (Jan. 12, 2001)

66 Fed. Reg. 3036 (Jan. 12, 2001)

66 Fed. Reg. 3058 (Jan. 12, 2001)

66 Fed. Reg. 3059 (Jan. 12, 2001)

66 Fed. Reg. 3060 (Jan. 12, 2001)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

66 Fed. Reg. 3061 (Jan. 12, 2001)

66 Fed. Reg. 3062 (Jan. 12, 2001)

66 Fed. Reg. 3063 (Jan. 12, 2001)

66 Fed. Reg. 3064 (Jan. 12, 2001)

66 Fed. Reg. 3065 (Jan. 12, 2001)

66 Fed. Reg. 3142 (Jan. 12, 2001)

66 Fed. Reg. 3143 (Jan. 12, 2001)

66 Fed. Reg. 3144 (Jan. 12, 2001)

66 Fed. Reg. 3145 (Jan. 12, 2001)

66 Fed. Reg. 58556 (Nov. 21, 2001)

67 Fed. Reg. 48099 (Jul. 23, 2002)

68 Fed. Reg. 7176 (Feb. 12, 2003)

68 Fed. Reg. 7180 (Feb. 12, 2003)

68 Fed. Reg. 7181 (Feb. 12, 2003)

68 Fed. Reg. 7185 (Feb. 12, 2003)

***xviii** 68 Fed. Reg. 7187 (Feb. 12, 2003)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

68 Fed. Reg. 7188 (Feb. 12, 2003)

68 Fed. Reg. 7196 (Feb. 12, 2003)

68 Fed. Reg. 7197 (Feb. 12, 2003)

68 Fed. Reg. 7198 (Feb. 12, 2003)

68 Fed. Reg. 7207 (Feb. 12, 2003)

68 Fed. Reg. 7214 (Feb. 12, 2003)

68 Fed. Reg. 7216 (Feb. 12, 2003)

68 Fed. Reg. 7217 (Feb. 12, 2003)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

68 Fed. Reg. 7218 (Feb. 12, 2003)

68 Fed. Reg. 7220 (Feb. 12, 2003)

68 Fed. Reg. 7224 (Feb. 12, 2003)

68 Fed. Reg. 7225 (Feb. 12, 2003)

68 Fed. Reg. 7226 (Feb. 12, 2003)

68 Fed. Reg. 7227 (Feb. 12, 2003)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

68 Fed. Reg. 7229 (Feb. 12, 2003)

68 Fed. Reg. 7233 (Feb. 12, 2003)

68 Fed. Reg. 7235 (Feb. 12, 2003)

68 Fed. Reg. 7237 (Feb. 12, 2003)

68 Fed. Reg. 7238 (Feb. 12, 2003)

***xix** 68 Fed. Reg. 7239 (Feb. 12, 2003)

68 Fed. Reg. 7246 (Feb. 12, 2003)

State Statutes and Regulations

S.D. Codified Laws § 1-40-4.1 (West 2003)

Ky. Rev. Stat. Ann. §§ 13A.120 & 224.16-050(4) (Baldwin 2003)

S.C. Code Regs. 61-43 Parts 100.90(D), (E), (F)

Legislative History

A Legislative History of the Water Pollution Control Act Amendments of 1972, ("1972 Legislative History") vol. 1

A Legislative History of the Water Pollution Control Act Amendments of 1972, ("1972 Legislative History") vol. 2

Other

Jiayang Cheng, et al., *Evaluation of Alternative Swine Waste Treatment Systems in Comparison with Traditional Lagoon System*

T.G. Ciravolo, et al., *Pollutant Movement to Shallow Ground Water Tables from Anaerobic Swine Waste Lagoons*, 8 J. Environmental Quality

Document Identifying Substantive Changes Between the Draft Regulation Sent to OMB for Review and the Final Regulation

Environmental Defense et al. Comments (July 30, 2001)

EPA, *Environmental Assessment of Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Limitation Guidelines for Concentrated Animal Feeding Operations* (January 2001) (“*Proposed Rule Environmental Assessment*”)

*xx EPA, *Cost Methodology for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Limitation Guidelines for Concentrated Animal Feeding Operations* (December 2002) (“*Final Rule Cost Methodology*”)

EPA, *Economic Analysis of the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Limitation Guidelines for Concentrated Animal Feeding Operations* (December 2002) (“*Final Rule Economic Analysis*”)

EPA, *Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* (2002) (“*Final Rule Development Document*”)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

EPA, *Environmental and Economic Benefit Analysis of the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Limitation Guidelines for Concentrated Animal Feeding Operations* (December 2002) (“*Final Rule Benefits Analysis*”)

EPA, *Pollutant Loading Reductions for the Revised Effluent Limitation Guidelines for Concentrated Animal Feeding Operations* (December 2002) (“*Final Rule Loads Analysis*”)

EPA, *Guidance Manual and Sample NPDES Permit for Concentrated Animal Feeding Operations* (September 21, 2000)

EPA, *Final CAFO Response to Comments*

EPA, *State Compendium; Programs and Regulatory Activities Related to Animal Feeding Operations* (May 2002) (“*State Compendium*”)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

EPA and USDA, *Unified National Strategy for Animal Feeding Operations* (1999)

Robert Kellogg, et al., *Manure Nutrients Relative to the Capacity of Cropland and Pastureland to Assimilate Nutrients*, USDA (December 2000)

Robbin Marks, NRDC, *Cesspools of Shame*, (July 2001)

***xxi** Dr. Raymond E. Massey, et al., *Agronomic and Economic Impacts of Lagoon Based Swine Operations Complying With The Proposed EPA Zero Discharge Rule*

Memo to CAFO Record

Memo to Paul Shriner, EPA, from Tom Curry, ERG (Oct. 5, 2001)

National Cattlemen's Beef Association, Cattle and Beef Industry Statistics

Natural Resources Defense Council Comments (July 30, 2001)

OMB Comments on Review Draft

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

W.F. Ritter and A.E.M. Chimside, *Impact of Animal Waste Lagoons on Ground-Water Quality*, 34 *Biological Wastes* 39-54 (1990)

Laurel J. Staley, EPA, Memorandum to Paul H. Shriner, EPA, *Assessment of the Necessity for Controlling Potentially Infectious Microorganisms in Animal Wastes* at 2 (Jan. 16, 2002)

Southern Environmental Law Center Comments (July 27, 2001) ... 8, 10, 13-14 State of Wisconsin Comments (July 27, 2001)

Waterkeeper Alliance Comments (July 30, 2001)

P.W. Westerman, et al., *Swine-Lagoon Seepage in Sandy Soil*, 38 *Transactions of the ASAE*

68 Fed. Reg. 7176 (hereinafter the "CAFO Rule.")

33 U.S.C. § 1369(b)(1)
40 C.F.R. § 23.2

28 U.S.C. § 2112

33 U.S.C. § 1369(b)(1) Fed. R.

App. P. 15

33 U.S.C. §§ 1311 1342

U.S.C. §§ 1251(e) 1342(a) 1342(j) 1342(k) 1365

33

33 U.S.C. §§ 1311 1314 1316

68 Fed. Reg. 7176

5 U.S.C. § 706(2)(A)

33 U.S.C. § 1311(b)

68 Fed. Reg. 7235

Id. at 7180

id. at 7180, 7238

68 Fed. Reg. 7237

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

33 U.S.C. § 1314(m)

66 Fed. Reg. 2960 [JA-2360].

66 Fed. Reg. 58556 (November 21, 2001)
67 Fed. Reg. 48099

68 Fed. Reg. 7187-88

40 C.F.R. § 122.42(e)

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

Center v. EPA, 344 F.3d 832, 855-56 (9th Cir. 2003)
EPA, 72 U.S.L.W. 3513 (U.S. June 7, 2004)

Environmental Defense
Texas Cities Coalition on Stormwater v.

33 U.S.C. § 1362(14)

1312(a)

33 U.S.C. §§ 1311(b)(1)(C)

Mut. Auto. Ins. Co., 463 U.S. 29, 43-44 (1983)

Motor Vehicle Mfrs. Ass'n v. State Farm

Air Transp. Ass'n of Am. v. Dep't of Transp., 119 F.3d 38, 43 (D.C. Cir. 1997)

National Black Media Coalition v. FCC, 791 F.2d 1016, 1022 (2d Cir. 1986)

Chevron [v. *NRDC*, 467 U.S. 837 (1984)

467 U.S. at 842-43, 104 S. Ct. 2778
F.3d 316, 324 (2d Cir. 2003)

New York Pub. Interest Research Group v. Whitman, 321

Motor Vehicle Mfrs. Ass'n v. State Farm [Mut. Auto. Ins. Co.], 463 U.S. 29 (1983)

State Farm, 463 U.S. at 43, 103 S. Ct. 2856
FDA, 77 F.3d 616, 620 (2d Cir. 1996)

Arent v. Shalala, 70 F.3d 610, 614-16 (D.C. Cir. 1995)

Henley v.

Public Citizen, Inc. v. Mineta, 340 F.3d 39, 53 (2d Cir. 2003)

40 C.F.R. §§ 122.42(e)(1) 412.4(c)(1)

40 C.F.R. § 122.42(e)(1)

40 C.F.R. § 412.4(c)(2)

68 Fed. Reg. 7198

832, 855 n. 32 (9th Cir. 2003) *Environmental Defense Center v. EPA*, 344 F.3d

33 U.S.C. § 1342(p)(3)(B)

Environmental Defense Center, 344 F.3d at 855

Natural Resources Defense Council v. EPA, 966 F.2d 1292, 1305 (9th Cir. 1992)

Environmental Defense Center, 344 F.3d at 856; *Natural Resources Defense Council v. EPA*, 966 F.2d 1292, 1305 (9th Cir. 1992)

33 U.S.C. §§ 1311(b) 1314(b) *NRDC v. EPA*, 863 F.2d 1420, 1431 (9th Cir. 1988)
Kennecott v. EPA, 780 F.2d 445, 448 (4th Cir. 1985) *NRDC v. EPA*, 822 F.2d 104, 115 n. 12 (D.C. Cir. 1987)

E.I. du Pont de Nemours & Co. v. Train,
 430 U.S. 112, 130-31 (1977) *Texas Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 927 (5th Cir. 1998)

40 C.F.R. § 122.42(e)

68 Fed Reg. 7229

CFR § 122.21(i)(1)(x)

40 C.F.R. § 122.42(e)(2)(ii)

40

American Paper Inst. v. EPA, 996 F.2d 346, 349 (D.C. Cir. 1993)

33 U.S.C. § 1311

33 U.S.C. §§ 1342(a)(1)

Section 402(b)(1)(A)

40 C.F.R. § 122.42(e)

effluent limitation.” 68 Fed. Reg. 7227

section 402(b)(1)(A)

33 U.S.C. §

1342(b)(1)(A)

EPA for the point source category. *Texas Oil and Gas*

Ass’n., 161 F.3d at 928; 33 U.S.C. § 1342(a)(1)

EPA v. California ex rel. State Water Resources Control Bd., 426

US, 200, 205 (1976)

Pub. L. No. 95-96

Texas Oil and Gas Assoc. v. EPA, 161 F.3d 923, 928 (5th Cir. 1998)

section 402

40 C.F.R. § 122.44

Northwest Envtl.

Advocates v. City of Portland, 56 F.3d 979, 985 (9th Cir. 1995)

40 C.F.R. 122.44(a)

§ 1342

66 Fed. Reg. 3036 [JA-2436].

Atchinson v. Wichita Bd. of Trade, 412 U.S. 800, 808 (1973)

§ 402(k)

sections 1319

1365

sections 1311 1312 1316 1317

1343 33 U.S.C. § 1342(k)

section 402]

33 U.S.C. § 1342(j)

33 U.S.C. § 1342(a)(1)

33 U.S.C. § 1251(e)

33 U.S.C. § 1369(b)(1) 40

C.F.R. §§ 124.10(a)(1)(ii) (b) 124.19

40 C.F.R. 122.42(e)(2)(ii)

40 C.F.R.

412.37(c)

40 C.F.R. § 122.42(e)(4)

68 Fed. Reg. 7233

Environmental Defense Center v. EPA, 344 F.3d 832, 856 (9th Cir. 2003)

section 402(j)

33 U.S.C. §

1365

33 U.S.C. § 1362(14)

*Concerned Area**Residents for the Env't v. Southview Farm*, 34 F.3d 114 (2d Cir. 1994)

33 U.S.C § 1311(a)

33 U.S.C. § 1362(6)
33 U.S.C. § 1362(12)

33 U.S.C. § 1362(14)

33 U.S.C. § 1362(14)

section 1362(14)

33 U.S.C. § 1362(14)

40 C.F.R. § 122.23(e)

68 Fed. Reg.

7197

Id. at 7198

Southview Farm, 34 F.3d at 118, *Dague v. City of Burlington*, 935 F.2d 1343, 1354 (2d Cir. 1991)
Natural Resources Defense Council v. EPA, 966 F.2d 1292, 1305-06 (9th Cir. 1992)
U.S. v. Earth Sciences, Inc. 599 F.2d 368, 373 (10th Cir. 1979)
Natural Resources Defense Council v. Costle, 568 F.2d 1369, 1382 (D.C. Cir. 1977)
American Mining Congress v. EPA, 824 F.2d 1177, 1183-93 (D.C. Cir. 1987)

33 U.S.C. §

1362(14)

Southview Farm, 34 F.3d at 116

2001) *Water Keeper Alliance, Inc. v. Smithfield Foods, Inc.*, 2001 WL 1715730, at *4 (E.D.N.C. 2001)

1984) 34 F.3d at 123 *Higbee v. Starr*, 598 F. Supp. 323 (E.D. Ark. 1984)
782 F.2d 1048 (8th Cir. 1985)

Carr v. Alta Verde Indus., Inc., 931 F.2d 1055 (5th Cir. 1991) *Community Ass'n for the*
Restoration of the Env't v. Henry Bosma Dairy, 305 F.3d 943, 955 (9th Cir. 2002)

Reynolds v. Rick's Mushroom Service, Inc., 246 F. Supp. 2d 449, 456-57
(E.D. Pa. 2003)

CAFO operations." 68 Fed. Reg. 7196

40 C.F.R. § 122.23(b)(3)

122.23(b) 40 C.F.R. §
33 U.S.C. § 1362(14) *Southview Farm*, 34 F.3d at 122-23.
40 C.F.R. § 122.23(b)(1)

122.23(b) § 122.23(b)(2) §
40 C.F.R. § 122.23(e)

Southview Farm, 34 F.3d at 123,

C.F.R. § 122.23(e) 40

Southview Farm, 34 F.3d at 123

33 U.S.C. § 1362(14)

40 C.F.R. § 123.23

68 Fed. Reg. 7197-98

33 U.S.C. § 1362(14)

United States v. Bernier, 954

F.2d 818, 81920 (2d Cir. 1992)

Pub.L. No. 100-4.

33 U.S.C. § 1362(14)

33

U.S.C. § 1362(14) 34 F.3d at 120.

33 U.S.C. § 1342(p)

122.23 40 C.F.R. § 122.3(e)

40 C.F.R. 122.26(b)(14)(i)

40 C.F.R. § 122.26(b)(14)(v)

Finally, the NPDES General Permit for Stormwater Discharges Associated with Industrial Activity includes CAFOs in that permit. 57 Fed. Reg. 41236, 41297, 41305 n.2 (Sept. 9, 1992)

34 F.3d at 123

Osorio v. INS, 18 F.3d

1017, 1022 (2d Cir. 1994)

Michel v. INS, 206 F.3d 253, 262-63 (2d Cir.

2000)

Southview Farm, 34 F.3d at 123

at 121

Southview Farm, 34 F.3d

33 U.S.C. § 1362(14)

Chemical Mfrs. Ass'n v. Natural Resources Defense Council, 470 U.S. 116, 155-56 (1985)

33 U.S.C. §§ 1311(b)(1)(C)

1312(a) Section 302(a)

section 1311(b)(2)

§ 302(a)

40 C.F.R. § 503.32

§ 302

Rep. No. 92-414 (1971)

33 U.S.C. § 1311(b)
§ 302(a)

S.

33 U.S.C. § 131

Section 302

68 Fed. Reg. 7207

68 Fed. Reg. 7198

§ 302(a)

40 C.F.R. § 503.5

§ 302

1 (b)(2)

33 U.S.C. § 1312(a)

68 Fed. Reg. 7207

§ 302(a)

33

U.S.C. § 1362(14)

§ 302(a)

§ 302(a)

301(b)(1)(C)

40 C.F.R. § 122.44(d)(1)

Palermo v. Federal

Deposit Ins. Corp., 981 F.2d 843, 846-47 (5th Cir. 1993)

Air Transp. Ass'n of Am. v. Dep't Transp., 119 F.3d 38, 43 (D.C. Cir. 1997)

66 Fed. Reg. 2969 [JA-2369].

S.D. Codified Laws § 1-40-4.1

301(b)(1)(c)

§ 302

§

§§ 302 301(b)(1)(C)

5 U.S.C. § 706(2)(A) *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43-44 (1983)

33 U.S.C. § 1311

33 U.S.C. §§ 1311(b), (e)

33 U.S.C. § 131 *Chemical Mfrs. Ass'n v. EPA*, 870 F.2d 177, 196 (5th Cir. 1989)

33 U.S.C. § 1316

33 U.S.C. § 1314(b)

Texas Oil & Gas Ass'n v. EPA, 161 F.3d 923, 927 (5th Cir. 1998)

33 U.S.C. § 1251(a)

33 U.S.C. § 1311

Natural Resources Defense Council, Inc. v. EPA, 822 F.2d 104, 123-24 (D.C. Cir. 1987)

33 U.S.C. § 1311(b)(1)(A)

American Frozen Food Inst. v. Train, 539 F.2d 107, 117 (D.C. Cir. 1976)

American Frozen Food Inst., 539 F.2d at 117

33 U.S.C. § 131

(b)(2)(E)

American Petroleum Inst. v. EPA, 787 F.2d

965, 976 (5th Cir. 1986)

33 U.S.C. § 1314(b)(4)(B)

33 U.S.C. §

1311(b)(2)(A)

American Frozen Food Inst., 539 F.2d at 120,

33 U.S.C. § 1311(b)(2)(A)

E. I. Du Pont De Nemours & Co. v. Train, 430 U.S. 112, 126-30 (1977)

Texas Oil & Gas Ass'n v. EPA, 161 F.3d 923, 928 (5th Cir. 1998)

See NRDC v. EPA, 822

F.2d 104, 123 (D.C. Cir. 1987)

NRDC v. EPA, 863 F.2d 1420, 1431 (9th Cir. 1988)

33 U.S.C. § 1316

33 U.S.C. § 1316(a)

33 U.S.C. § 1316(b)(1)(B)

33 U.S.C. § 1316(b)(1)(A)

NRDC v. EPA, 822 F.2d at 115

68 Fed.

Reg. 7181, 7224

66 Fed. Reg. 3058-65 [JA-2458-2465]

66 Fed. Reg. 3060 [JA-2460].

Id. at 3065

id. at 3064

NRDC v. EPA, 822 F.2d 104, 123 (D.C. Cir. 1987)

NRDC v. EPA, 863 F.2d 1420, 1431 (9th Cir. 1988) *NRDC*,
 822 F.2d at 115 n.12).
Kennecott v. EPA, 780 F.2d 445, 448 (4th Cir. 1985)
Texas Oil & Gas Ass'n v. EPA, 161 F.3d
 923, 928 (5th Cir. 1998) *Chemical Mfrs. Ass'n v. EPA*, 870 F.2d 177, 226 (5th Cir. 1989)

S. Rep. No. 92-414 (1971)

68 Fed. Reg. 7239

Id. at 7224

NRDC v. EPA, 822 F.2d at 123.
Hooker Chemicals &
Plastics Corp. v. Train, 537 F.2d 620, 636 (2d Cir. 1976) 33 U.S.C. § 1314(b)(2)(A)
 66 Fed.
 Reg. 2969 [JA-2969];

S.C. Code Regs. 61-43 Parts 100.90(D), (E), (F)

Hooker Chemicals and Plastics Corp., 537 F.2d at 636.

Kenecott, 780 F.2d at 448

68 Fed. Reg. 7218

40 C.F.R. §§ 412.31 412.32 412.33 412.43 412.44 412.45

68 Fed. Reg.

7218

Id. at 7218

33 U.S.C. § 1311(a)

EPA v. National Crushed Stone Ass'n, 449

U.S. 64, 70-71 (1980)

Rybachek v. EPA, 904 F.2d 1276, 1289-91 (9th Cir. 1990)

Public Citizen v.

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

Mineta, 340 F.3d 39 (2d Cir. 2003)

Public Citizen, 340 F.3d at 51 *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 55 (1983)

1314(b)(2)(B) *Kennecott*, 780 F. 2d at 448 33 U.S.C. §§ 1311(b)(2)(A)

Public Citizen, 340 F.3d at 52

107-171, § 2301, 16 U.S.C § 3839aa-7 Pub. L. No.

68 Fed. Reg. 7246

68 Fed. Reg. 7218, 7246

Chemical Mfrs. Ass'n v. EPA, 870 F.2d 177, 250 (5th Cir. 1989)
Association of Pacific Fisheries v. EPA, 615
 F.2d 794, 818 (9th Cir. 1980)

33 U.S.C. § 1311(b)(2)(A)

Hooker Chemical & Plastics Corp. v. Train, 537 F.2d 620, 636 (2d Cir. 1976) *Association of Pacific Fisheries*, 615 F.2d at 818

Public Citizen v. Mineta, 340 F.3d 39, 53 (2d Cir. 2003) *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)
Henley v. FDA, 77 F.3d 616, 620 (2d Cir. 1996)

66 Fed. Reg. 3064 [JA-2464].

American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1053 (3d Cir. 1977)

Public Citizen v. Steed, 733 F.2d 93, 99 (D.C. Cir. 1984) *Natural Resources Defense Council v. SEC*, 606 F.2d 1031, 1053 (D.C. Cir. 1979)
Reynolds Metals Company v. EPA, 760 F.2d 549, 559 (4th Cir. 1985) *Tanner's Council of Am., Inc. v. Train*, 540 F.2d 1188, 1191 (4th Cir. 1976)

66 Fed. Reg. 3061 [JA-2461].

Id. at 3062

CAFOs. *See* 68 Fed. Reg. 7216

66 Fed. Reg. 3062 [JA-2462].

NRDC v. SEC, 606 F.2d 1031, 1053

(D.C. Cir. 1979)

68 Fed. Reg. 7216

id. at 7214

42 U.S.C § 6901 *et seq.*

40 C.F.R. § 258.40

Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) *Public Citizen, Inc. v. Mineta*, 340 F.3d 39, 56 (2d Cir. 2003)

33 U.S.C § 1311(b)(2)(E)

CAFOs. 68 Fed.

Reg. 7217, 7239

141.63(b)

State

Farm, 463 U.S. at 43; *Public Citizen v. Mineta*, 340 F.3d 39 (2d Cir. 2003)

66 Fed Reg. 3060 [JA-2460]

68 Fed Reg. 7224 [JA-2595].

American Paper

Inst. v. EPA, 660 F.2d 954, 961 (4th Cir. 1981)

40 C.F.R. 503.32

68 Fed. Reg. 7224

33 U.S.C. § 1316

33 U.S.C. § 1316(b)

123 (D.C. Cir. 1987)

33 U.S.C. § 1316(a)(1)

Natural Resources Defense Council v. EPA, 822 F.2d 104,

66 Fed. Reg. 3144 [JA-2544].

40 C.F.R. § 412.46(a)(1)

40 C.F.R. § 412.46(d)

Reg. 7225-26

68 Fed.

68 Fed. Reg. 7220

Donovan, 452 U.S. 490, 539 (1981)

American Textile Mfrs. Inst., Inc. v.

SEC v. Chenery Corp., 332 U.S. 194, 197 (1947)

68 Fed. Reg. 7225-26

Public Citizen, Inc. v. Mineta, 340 F.3d 39 (2d Cir. 2003)

Midwater Trawlers Co-operative v. Department of Commerce, 282 F.3d 710, 720 (9th Cir. 2002)

§ 1251 (d)
1316 (b)

33 U.S.C.
33 U.S.C. §

Environmental Defense Fund v. Thomas, 627 F. Supp. 566, 570-71 (D.D.C. 1986)

Public

Citizen Health Research Group v. Tyson, 796 F.2d 1479, 1505 (D.C. Cir. 1986)

5 U.S.C. § 553(b)

National Black Media Coalition v. FCC, 791

F.2d 1016, 1022 (2d Cir. 1986)

National Wildlife Fed'n v. EPA, 286 F.3d 554, 560

BASF Wyandotte Corp.

v. Costle, 598 F.2d 637, 644-45

Kennecott v. EPA, 780 F.2d 445, 452-53 (4th Cir. 1985)

National Black Media Coalition v. FCC, 791 F.2d 1016, 1022 (2d Cir. 1986)

Footnotes

* This appeal has been withdrawn as per 11/26/03 order.

1 Declarations in support of Environmental Petitioners' standing are filed herewith under separate cover.

2 “SPA” refers to the Special Appendix, which includes EPA’s notice of its final CAFO Rule.

3 “JA” refers to the deferred Joint Appendix filed pursuant to Fed. R. App. P. 30(c)(1).

4 “SUPP JA” refers to the Supplemental Joint Appendix.

5 Preambles are “evidence of an agency’s contemporaneous understanding of its proposed rules.” *Wyoming Outdoor Council v. U.S. Forest Serv.*, 165 F.3d 43, 53 (D.C. Cir. 1999); *see also, Fidelity Federal Sav. & Loan Ass’n. v. de la Cuesta*, 458 U.S. 141, 157-58 & n.13 (1982) (reliance on preamble to explain regulation is appropriate). If there is a conflict between the preamble and the rule, that requires remand to the agency. *Kennecott Utah Copper Corp. v. U.S. Dep’t of Interior*, 88 F.3d 1991, 1220 (D.C. Cir. 1991).

6 EPA has authorized 45 states to administer the NPDES program; the state environmental agency is the permitting authority in those states. *See* 68 Fed. Reg. 7185 [SPA-283]. Technical standards established by the permitting authority determine how application rates are calculated. *See* 40 C.F.R. 412.4(c)(2) [SPA-195].

7 The proposed CAFO Rule required NMPs to be developed or approved by a certified specialist. *See* 66 Fed. Reg. 3142-45 [JA-2542-2545].

8 A general permit covers a category of sources within a geographic area that discharge similar wastes and require the, same effluent limitations. 40 C.F.R. § 122.28(a).

9 *See* Argument IV *infra*, for discussion of the CAFO Rule’s unlawful exemption of CAFO land application area discharges from Water QualityBased Effluent Limitations.

10 EPA’s Response to Comments explains that despite guidance and “more than twenty years of regulation, there are persistent reports of discharge and runoff of manure and manure nutrients from livestock and poultry operations”).

Waterkeeper ALLIANCE, American Farm Bureau Federation..., 2004 WL 3757413...

- 11 This issue was raised in public comments by the Department of Interior, NRDC, and others. “We believe that the [permit nutrient plan] described in this proposal is and essential portion of an effective NPDES permit, and should be included in the permit.” Response to Comments, Excerpt of U.S. Department of Interior's Comments, at 13-183 [SUPP JA-49].
- 12 Section 301 pertains to “effluent limitations;” section 302 pertains to “water quality related effluent limitations;” section 306 deals with “national standards of performance;” section 307 covers “toxic and pretreatment effluent standards;” and section 403 covers “ocean discharge criteria.” 33 U.S.C. §§ 1311, 1312, 1317, and 1343.
- 13 As noted above, EPA says that NMPs are the vehicles for implementing the ELG.
- 14 U.S. Department of Interior, NRDC, Sierra Club, and others raised this issue in their comments. “We also believe that the PNP should be developed before the applicant applies for an NPDES permit, so that the PNP is included in the public review process of the NPDES permit.” Response to Comments, at 13-231. [SUPP JA-6].
- 15 Even assuming, *arguendo*, that discharges from the land application area are agricultural stormwater, there is no mechanism in the CAFO Rule to prevent dry weather discharges.
- 16 “Storm water” is defined as “storm water runoff, snow melt runoff, and surface runoff and drainage.” 40 C.F.R. § 122.26(b)(13) [SPA-123].
- 17 EPA is required to submit a draft of any significant regulatory action to OMB for review. *See* Exec. Order No. 12,866, 58 Fed. Reg. 51735 (Sept. 30, 1993) [JA-2788].
- 18 The OMB materials are in the Administrative Record at Section 27.2, DCN 500204 and DCN 500205 and at Section 27.3, DCN 321831. In EPA's Table of Contents for the Administrative Record Index filed with the Court, Sections 27.2 and 27.3 are “reserved.” EPA counsel has informed Environmental Petitioners that EPA does not consider the OMB materials part of the Administrative Record. Environmental Petitioners filed herewith a Motion to Clarify or Supplement the Administrative Record to resolve this issue.
- 19 Under the old ELGs, in order to meet BPT, facilities were to contain all wastewater and runoff from a 10-year, 24-hour storm. *See* 40 C.F.R. § 412.12 (2002). For BAT, the standard was raised to encompass a 25-year, 24-hour storm. *See* 40 C.F.R. § 412.13(b) (2002).
- 20 EPA states that total industry compliance costs for Option 2 would be \$283.3 million. Option 2 costs for swine, veal and poultry account for \$70.5 million of this figure. Option 5 costs for swine, veal and poultry CAFOs are estimated by the agency to be \$167.4 million. *See Final Rule Economic Analysis* at 3-10, table 3-5 [JA-2337].
- 21 Option 2 compliance costs amount to 3.65% of these revenues.
- 22 EPA has used the term “pathogens” in the regulatory context to encompass fecal coliform and other pathogenic contaminants such as *E. coli*. *See, e.g.*, 68 Fed. Reg. 7239 [SPA-337].
- 23 The CWA authorizes the land application of sewage sludge subject to regulations published by EPA. *See* CWA §§ 405(b) and (d).
- 24 40 C.F.R. Part 503 also establishes maximum allowable concentrations for other pollutants, including metals and nutrients (nitrogen and phosphorus). *See* 40 C.F.R. § 503.13.
- 25 Although a design standard based on the 100-year, 24-hour storm event sounds like it would be protective, in reality the 100-year, 24-hour storm event averages only an extra inch of rain compared to the 25-year, 24-hour storm event. *See* Technical Paper No. 40, *referenced in, Final Rule Loads Analysis*, Appendix C, at 101 [JA-1667].

End of Document

© 2013 Thomson Reuters. No claim to original U.S. Government Works.

To: Gilinsky, Ellen[Gilinsky.Ellen@epa.gov]
From: Stoner, Nancy
Sent: Fri 11/1/2013 10:47:59 AM
Subject: Fw: November 4th - Final Administrator's Report
Final EPA Weekly Administrator's Report 11 4 2013.docx

The drought announcement is covered in this, fyi

From: Pieh, Luseni
Sent: Thursday, October 31, 2013 6:19:25 PM
To: Pieh, Luseni
Subject: November 4th - Final Administrator's Report

Good evening,

Attached please find the Administrator's Report for the week of November 4th.

Thank you,

Lou

Lou Pieh

White House Liaison

Environmental Protection Agency

Direct: 202-564-3580

Cell: 202-365-8562

Pieh.Luseni@epa.gov

To: Best-Wong, Benita[Best-Wong.Benita@epa.gov]
From: Stoner, Nancy
Sent: Thur 10/31/2013 4:28:36 PM
Subject: Stoner standards for this year
[nancy final-model-appraisal-plan-2014 ann 10.23.13.docx](#)

Starts on p. 5.